

UNIVERSITY OF ARIZONA



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ACSA

Association of Collegiate
Schools of Architecture
1735 New York Avenue NW
Washington, DC 20006
202/ 785-2324

The Association of Collegiate
Schools of Architecture is a non-
profit organization founded in
1912 to enhance the quality of
architectural education.

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Executive Director:

Richard E. McCommons, FAIA

JURY

Harold Hay

Program Author
University of Miami

Donald Prowler

University of Pennsylvania

David Sellers

Warren, Vermont

SPONSOR

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competition was generously
provided by the H.R. and E.J. Hay
Charitable Trust Fund.

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THE UNITOWN

INTRODUCTION**FUTURE CITIES COMPETITION:
THE UNITOWN**

Designing a future town integrating changes currently needed in urban planning and architecture was the challenge presented to students in the first annual "Unitown" competition. The program called for the design of a future town exploring design guidelines proposed as common practice in the future -- guidelines such as recycling and environmental considerations. Growing concern regarding the preservation of the earth's environment is presumed to have led to the notion of a "recycled city," a city free from pollution and waste products.

This was the first ACSA competition open to both upper and lower level students, and was intended to encourage faculty to promote design with ecological considerations.

THE CHALLENGE

The competition called for the design of a city, or representative portion thereof, with a population of 25,000 - 40,000, that was totally enclosed for the majority of its work and living experiences, and made considerable use of solar heating and cooling principles, as well as recycling. The design challenge was to incorporate the proposed technologies while at the same time providing a meaningful community social environment. Design concepts were to suggest solutions which reduced pollution and monetary costs, as well as reduced harmful impacts on the environment. Solving problems created by architecture in the past -- climatic, systematic, social, political, etc -- and encompassing a different architecture open to possibilities of the future were encouraged.

PROGRAM CRITERIA

The site selected may have been either in the local region of the participating school, or in a climatic region of interest to the studio. Ozone layer damage required that the "Unitown" be fully covered. For optimum use of natural energy, building height was limited to a maximum of four stories. Buildings were to be no more than four blocks from a central moving walkway. The "Unitown" was to be constructed only of recycled and recyclable materials with facilities for collecting and recycling all wastes produced by residents. Concrete use was restricted since it is nonrecyclable and an excessive burden on landfills. Use of gypsum materials was encouraged, and plastics were considered essential for preventing ground moisture and radon penetration. Land conservation, environment preservation, rain collection, and recycling were required. Solar heating and night-sky cooling principles must have been maximized in the overall solution.

THE UNITOWN

Rooftops were to be dedicated to energy transfer and storage -- perhaps by use of roof ponds. Vehicles for goods delivery into the "Unitown" were confined to a single underground roadway. The basement level was designated to accommodate non-polluting small industries and noisy activities requiring air conditioning with ventilation discharged into the roadway. All enclosed air above ground level, and that of the basement, was conditioned to a uniform temperature, hence the building facades could be open grilles or special walls that allow air to enter rooms and exit through glazed building cores. Facades should have been removable and recyclable. With total enclosure, facade materials were not required to withstand rain. Floor layouts and building sizes and shapes for residential, commercial, and institutional purposes were to provide maximum ventilation without individual heating/cooling units in buildings, as well as successfully deal with acoustics, privacy problems, and safety.

ELIGIBILITY

This competition was open to all students -- both upper and lower level -- in architecture schools in North America in a Bachelor of Science, Bachelor, or Master of Architecture degree program. Each entrant had a faculty sponsor, and submissions were principally the product of work in a design studio. Team entries were not permitted.



Pictured from left to right are jurors David Sellers, Donald Prowler, and Harold Hay.

JURY

The competition jury was comprised of three individuals strongly involved with environmental issues, who also represented a wide range of concerns and attitudes about architecture in general.

The jurors found that the most successful projects were those which made use of solar heating and cooling principles as well as recycling and community acceptance considerations. The jury selected three honor awards and one honorable mention in Category I (lower level students), and first, second, and third place, as well as one honorable mention in Category II (upper level students).

The jury was held May 24, 1993 at the headquarters of the American Institute of Architects in Washington, DC.

THE U N I T O W N

ABOUT THE JURY

Harold Hay is an adjunct professor of architecture at the University of Miami. In addition to a lifetime of research as a chemist, he is also credited as the inventor of the roof pond system. Professor Hay has researched and developed numerous wood preservatives, acoustical products, and synthetic rubber, and has been the recipient of numerous national awards. He was cited by *TIME* magazine in an article on outstanding American ingenuity. Professor Hay is the author of dozens of technical articles in engineering and architecture publications, and has worked in Sweden, India, Venezuela, and Colombia. His work survives internationally on the basis of its elegant simplicity.

Donald Prowler, FAIA, is an architect and faculty member at the University of Pennsylvania. His practice, criticism, research and teaching address topics in sustainable architecture, including passive solar design, energy conservation, healthy buildings and materials, pedestrian-oriented urban design, and affordable housing. Mr. Prowler graduated cum laude from Princeton University and received his Master of Architecture from the University of Pennsylvania. In 1983, Mr. Prowler won a *Progressive Architecture* Research Award for his work on energy curriculum development, and has been involved with the National Research Council's Committee on Energy Conservation Research, the Second National Passive Solar Conference, and was program chairman of the 1983 International Daylighting Conference. Mr. Prowler has also been a regional correspondent for *Progressive Architecture*. In addition, he has contributed to numerous scholarly and design publications.

David Sellers has been selected as one of "40 Outstanding Architects in the U.S. Under 40 Years Old" by the New York Architectural League, and in 1992, was listed in AD100, *Architectural Digest's* selection of the world's 100 foremost architects. His work spans from exploration of the individual house to design of neighborhoods and communities. After graduating from Yale's graduate school of architecture with honors, he settled in Vermont. In the late 1960's, his work in housing was featured in *LIFE* magazine and other publications. He went on to found and direct the design/build department at Goddard College, followed by seven years on the design faculty at Yale University. Mr. Sellers' designs have won several national competitions. He has lectured extensively in the U.S. and Europe, and his published works include numerous articles, exhibits and television appearances. He recently received a *Progressive Architecture* Citation for a master plan for Burlington, Vermont.

T H E U N I T O W N

COMPETITION PARTICIPANTS

ACSA FULL MEMBER SCHOOLS

Arizona State University	46
California Polytechnic State Univ, San Luis Obispo	22
City College of the City University of New York	1
Columbia University	1
Cooper Union	1
Lawrence Technological University	21
Louisiana Tech University	1

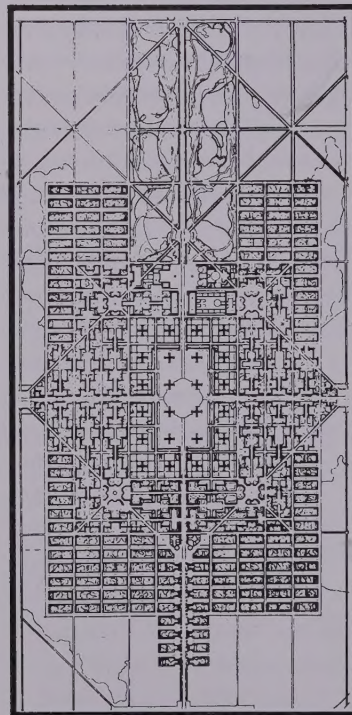
New York Institute

of Technology	1
Ohio State University	2
The Savannah College of Art and Design	10
Texas A&M University	18
Texas Tech University	19
University of Illinois at Chicago	1
University of Oklahoma	1
University of Puerto Rico	1
University of Tennessee	1

ACSA AFFILIATE

MEMBER SCHOOLS	
Anahuac University	20
Total number of registered students	167
Total number of registered schools	17

THE UNITOWN



Le Corbusier,
Ideal city for three million people

T H E U N I T O W N

AWARD RECIPIENTS

CATEGORY I

Lower level students

HONOR AWARDS

Eric Brown (\$1,200)
Texas A&M University

Daniel Day (\$1,200)
Texas A&M University

Heather Dodd (\$1,200)
Texas Tech University

HONORABLE MENTION

Rick Price (\$200)
Texas Tech University

In Category I, the jurors decided to award three equal Honor Awards in lieu of first, second, and third place awards. They felt that these three projects framed meaningful, important questions as a beginning for a design project, and also showed fundamental understanding of the issues from which the work could be developed.

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HONOR AWARD

ERIC BROWN

Texas A&M University

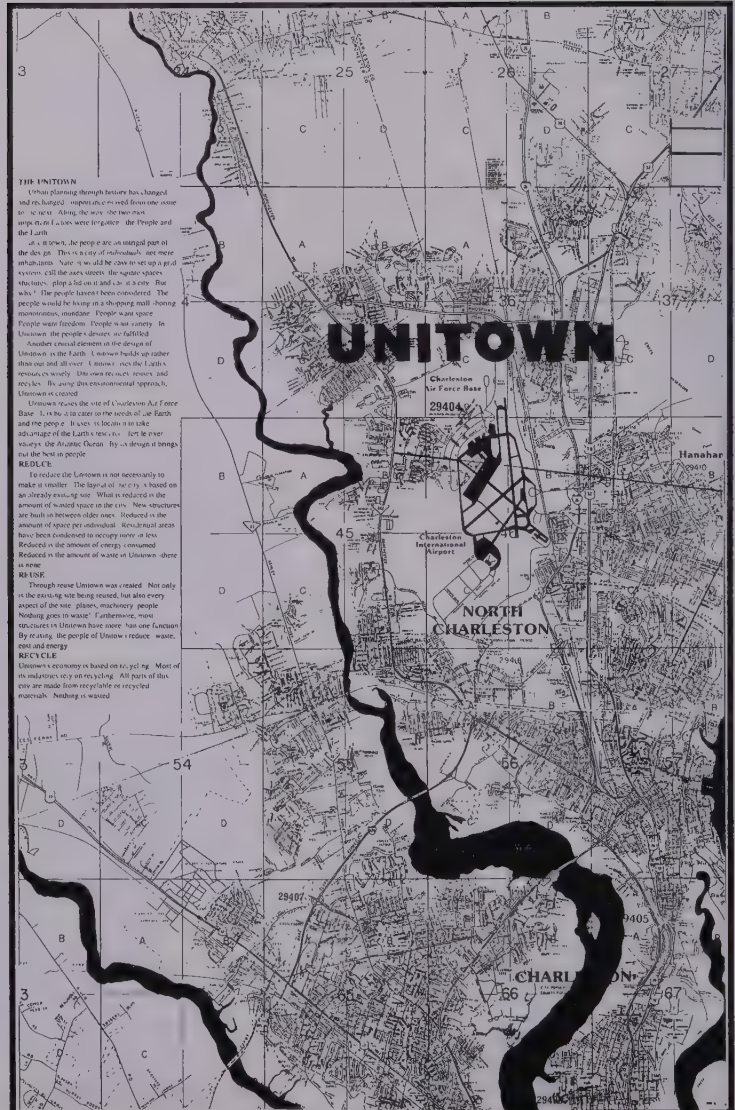
Second year student

Faculty Sponsor: James Tripp

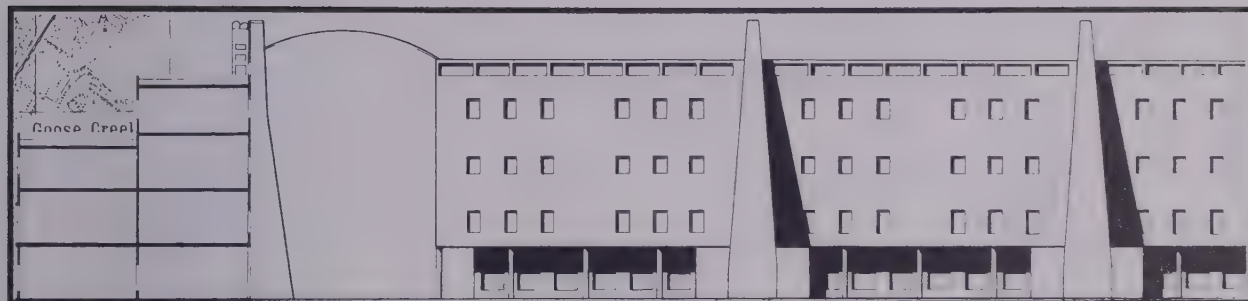
Student narrative

Urban planning through history has constantly changed. Importance has moved from one issue to the next. Along the way, the two most important factors were forgotten: the people and the earth.

In Unitown, people are an integral part of the design. This is a city of individuals; not mere inhabitants. It would be easy to set up a grid system, call the axes streets, the square spaces structures, plop a lid on it, and call it a city. But people haven't been considered. The people would be living in a shopping mall – boring, monotonous, mundane. People want space, freedom, variety. In Unitown, the people's desires are fulfilled.



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Another crucial element in the design is the earth. Unitown builds up rather than out and over, and uses the earth's resources wisely. Unitown is created by using the environmental approach.

This Unitown reuses the site of Charleston Air Force Base. This location can take advantage of the fertile river valleys and the Atlantic Ocean. It is designed to bring out the best in people.

REDUCE

To reduce the Unitown is not necessarily to make it smaller. The layout of the city is based on an existing site. What is reduced is the amount of wasted space in the city. New structures are built in between older ones. Residen-

tial areas have been condensed to occupy more in less space. Energy consumed is reduced.

RE-USE

Unitown was created through re-use. Not only is the existing site being reused, but so is every aspect of the site -- planes, machinery, people. Nothing goes to waste! Furthermore, most structures in Unitown have more than one function. By reusing, the people of Unitown reduce waste, cost and energy.

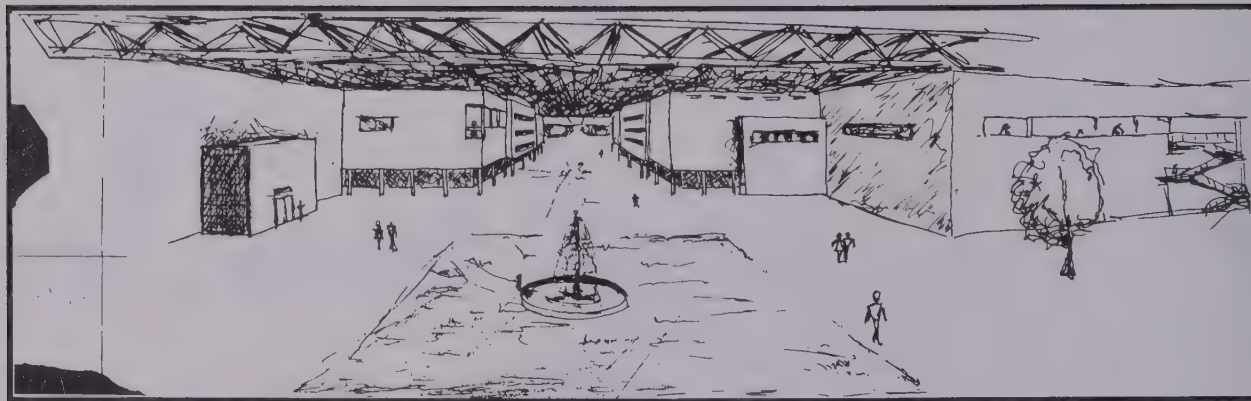
RECYCLE

Unitown's economy is based on recycling. All parts of this city are made from recycled or recyclable materials.

HOUSING

There will be different types of housing throughout the city to fulfill the individual's desires for housing. Each unit is unique due to its location and its occupant. Building materials include pieces from previous structures, parts from abandoned airplanes, and materials from local industries such as Bio-bricks. All facades are removable and are designed by the occupant as a form of personal expression. Each facade is based on a grid system and can be easily produced in a local factory. Townhouses will be built from existing barracks and aircraft hangars. Townhouses will be modulars with movable partitions inside. The covered areas will serve as walkways with one end

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opening to a public space while the other opens for ventilation purposes. Row houses will be built around existing residential streets. Each unit's shape is determined by the street which it wraps around. Low-cost housing will be available for migrants in exchange for their labor in local industry.

CLIMATE CONTROL/AIR QUALITY

Roofponds will be used extensively throughout the city to transfer heat and cold. Stair towers along with hangar/barrack facilities aid ventilation.

Fountains will be dispersed throughout the city to promote cooling. Deciduous forests will be planted outside of some southern edges of the city. Some south facing facades will be covered with adjustable solar panels to supply shade or transfer heat to that structure.

POWER

Solar energy is used extensively throughout the city. It is transferred through roofponds and solar panels. Some electricity is produced by steam powered turbines. Steam power is produced by burning solid sewage

materials. These solid waste furnaces also heat the recycling center's caldrons.

INDUSTRIES

Unitown has a variety of recycling industries. Plastics, glass, and all types of metals can be remanufactured in Unitown. Building materials are also manufactured in Unitown. Bio-bricks, Unitown's largest export, are made from by-products of solid sewage incineration. All industries export their products to surrounding areas as well as supply Unitown itself.

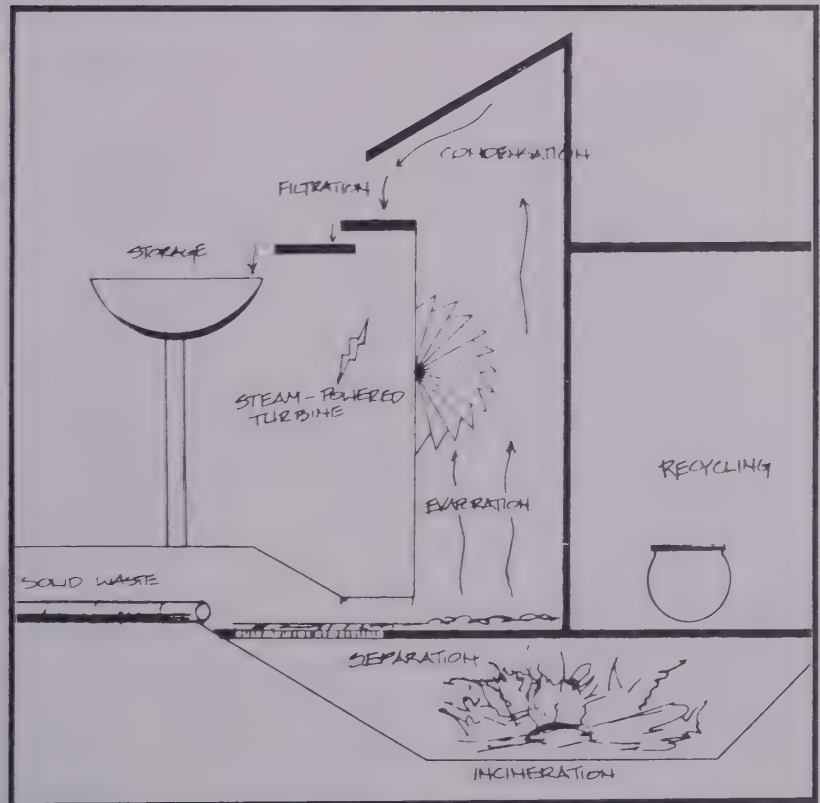
THE UNITOWN

Jury comments

Prowler: What intrigued me about this project was the framing of the question more than the solution. What this person apparently did was to ask how to rehabilitate this place.

Sellers: What I found interesting was that the designer was interested in acknowledging the built form that is already there. Having removable facades, removed and designed by the occupant, is a form of personal expression. Emphasizing that, plus having a bit of the old history, I thought was a major feature.

Hay: I thought there wasn't enough infrastructure use in here; there is a great deal of infrastructure in an airport -- could that be incorporated into the city itself? Other than that, I like the step-ups and the limitations of the size, taking it from Charleston -- that's a reasonable height. The principles are good. I think this is also a very good presentation.



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HONOR AWARD

DANIEL R. DAY

Texas A&M University

Second year student

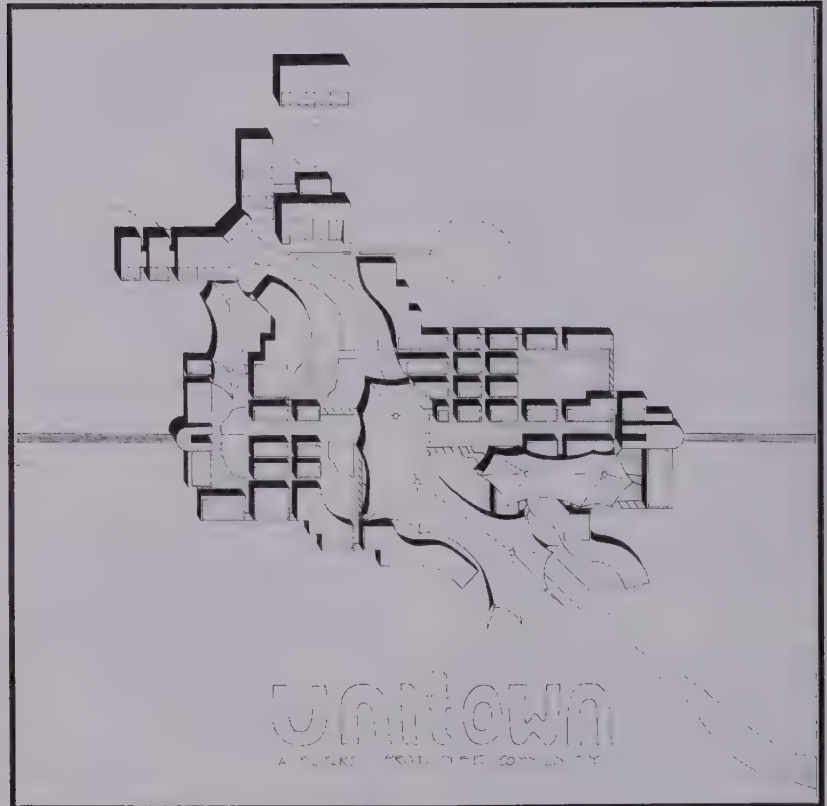
Faculty Sponsor: James Tripp

Student concept

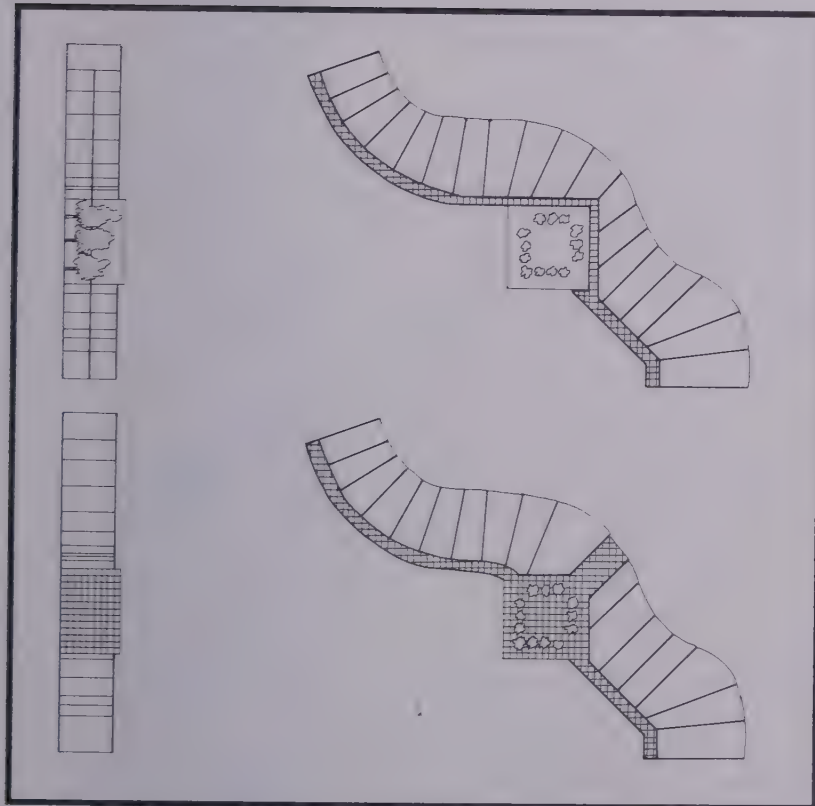
Unitown: a future prototype community that extensively uses wastewater, to fertilize urban forests and process waste water through the natural environment. The water generates the residential form and power, and is the backbone of the community.

Jury comments

Sellers: The reason I liked this project was the connection with the water and the master plan. I thought the master plan was less rigid than some of the others and showed potential for a variety of spaces. It had the tent structure which presumably would allow for flexibility of space and use over time. I think this project asks, "If you try to create a community which is going to deal with recycling, energy, and transportation, how do you make that a livable place?"



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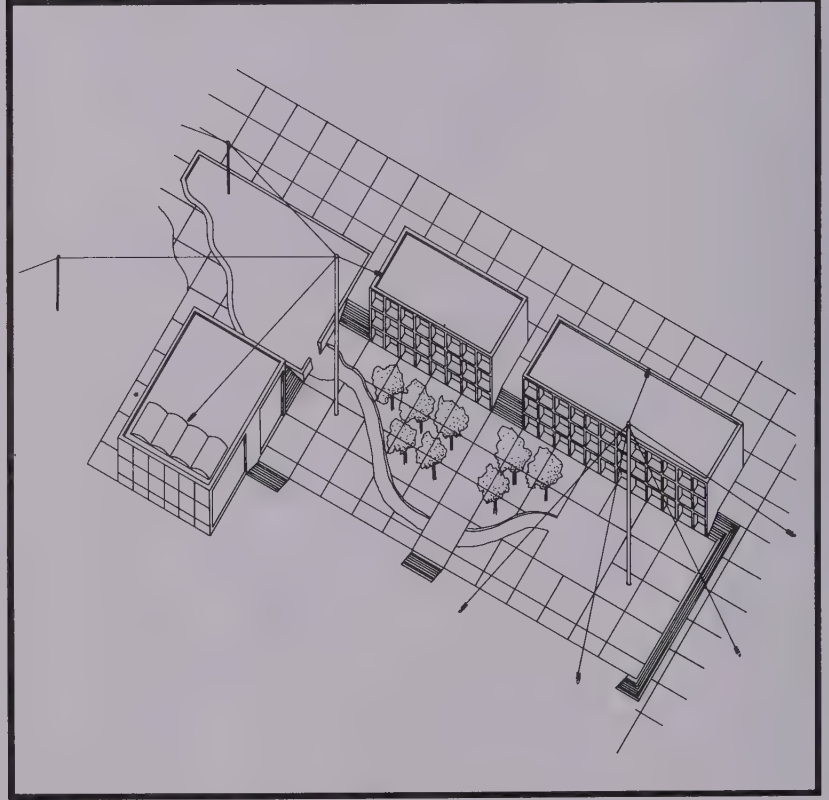
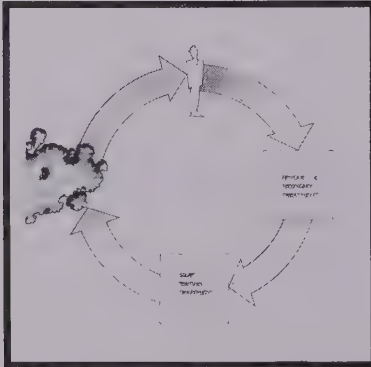
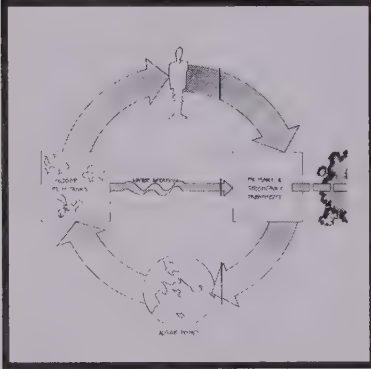
*Student narrative*

The results of hundreds of years of man's dominance over nature has been a rapid degradation of our ecosystem. The paradox is that while man is dominant over nature, nature is dominant over man. The Unitown is an effort to reconcile this apparent contradiction. The river is the source of the Unitown as well as the forms of residential buildings and processes around which the town is designed. While considerations for natural forms and processes are realized, it is also recognized that man is dominant over nature, and the forms and masses of industrial society are used. The result is a town that is responsive to natural forces and processes yet relates to the modern society it is designed to accommodate.

WASTE WATER CYCLING

The products of the sewage treatment should be seen as valuable resources, high in concentrations of nutrients. The uses of these products are two-fold: the nutrient-filled effluents can be used to support an algae pond, from which algae is

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pumped to indoor fish tanks. The multiple fish species raised in these tanks can be harvested and used as food. 2750 kg of trout can be produced in a single tank 5 meters deep and 2.3 meters in diameter. The nutrient-filled products of primary and secondary treatment can also be used in carefully controlled amounts to fertilize urban forest areas.

SOLAR WASTE WATER TREATMENT

Biological processes (as opposed to chemical processes) can be used to remove 95% of substances remaining in water that have been primarily and secondarily treated. Solar-heated lagoons support water invertebrates. This carefully managed, stable aquatic ecosystem metabolizes wastes and produces clean water. The water can further be filtered by urban forest areas and ultimately percolated back to the groundwater supply.

URBAN FORESTS

Urban forests serve several valuable functions in the Unitown. Forested areas are effective filters of waste effluents, removing harmful substances and recharging aquifers. Urban forests also provide shade, some food and recreational areas, as well as serve aesthetic purposes. Another important function is that urban forests serve as natural air filters.

ENERGY PRODUCTION AND USE

The Unitown must be less dependent on electric energy and fossil fuels. Power for the Unitown is generated by a hydro-electric plant. Extensive use is made of solar energy to heat water for residential and commercial uses. Roof ponds are used to naturally heat and cool commercial buildings. The Unitown is oriented to take advantage of natural southeast breezes during the summer, and facades and interior walls are designed as screens to allow air to freely circulate. Maximum use is made of natural, indirect lighting.

TRANSPORTATION

The Unitown is designed for pedestrians only. No mechanized vehicles operate on the surface. Electric fire/rescue vehicles operate in underground tunnels accessed by basements from the various buildings. Access to and from the Unitown is by means of an electric monorail which enters and exits the town from underground terminals.

FOOD PRODUCTION

The Unitown is designed to be self-sufficient with regards to food production. Hydroponic farming is used in conjunction with indoor fish tanks and graywater treatment. Roof gardens on top of the residential buildings allow the individuals to produce their own fruits and vegetables. Certain urban forest areas serve as orchards where other fruits are produced. Also, land outside of town irrigated with graywater can be used to graze certain animals; if the process is carefully managed, no land will be destroyed.

HEATHER DODD

Second year student

Faculty Sponsor:

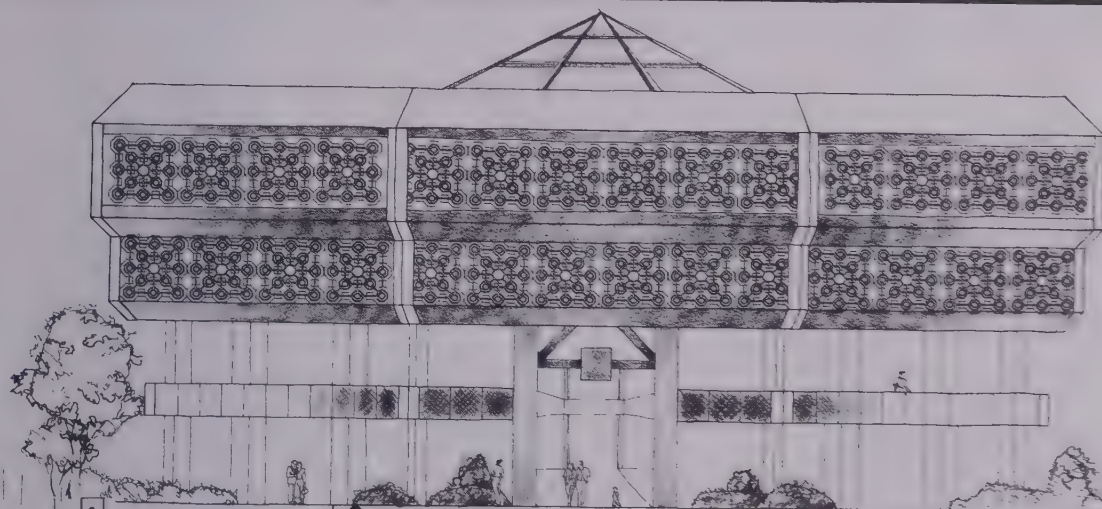
Elizabeth Loudon

Student concept

Unitown -- the community for the future; designing a community using climatic responsive design for the Austin, Texas area. Emphasis is on passive solar design using recycled and recyclable materials. The design is totally enclosed.

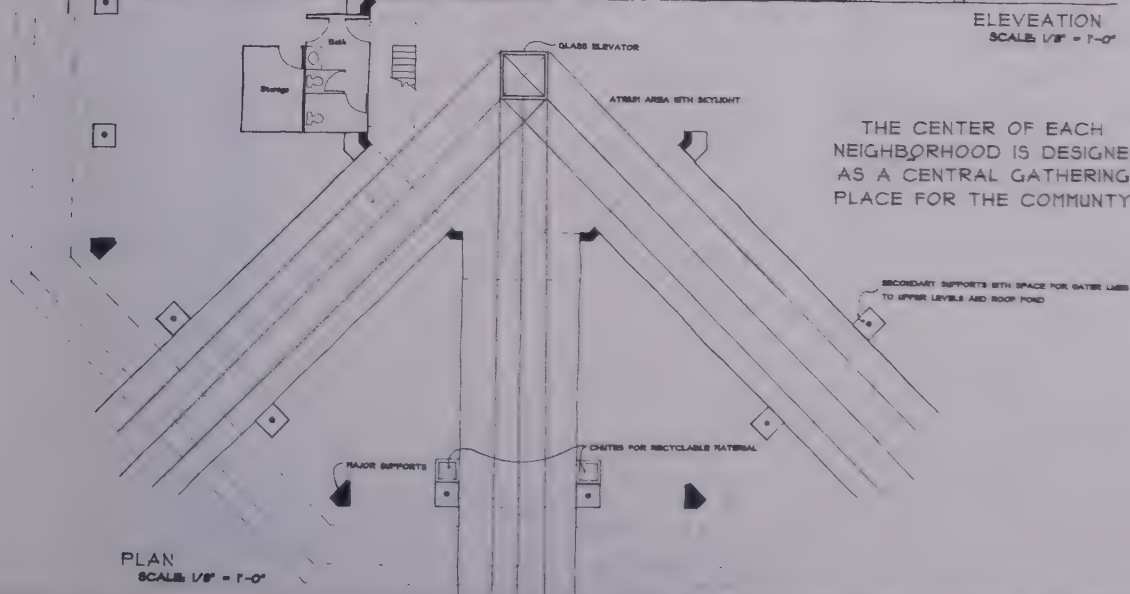


THE UNITOWN



ELEVATION
SCALE: 1/8" = 1'-0"

THE CENTER OF EACH
NEIGHBORHOOD IS DESIGNED
AS A CENTRAL GATHERING
PLACE FOR THE COMMUNITY.



PLAN
SCALE: 1/8" = 1'-0"

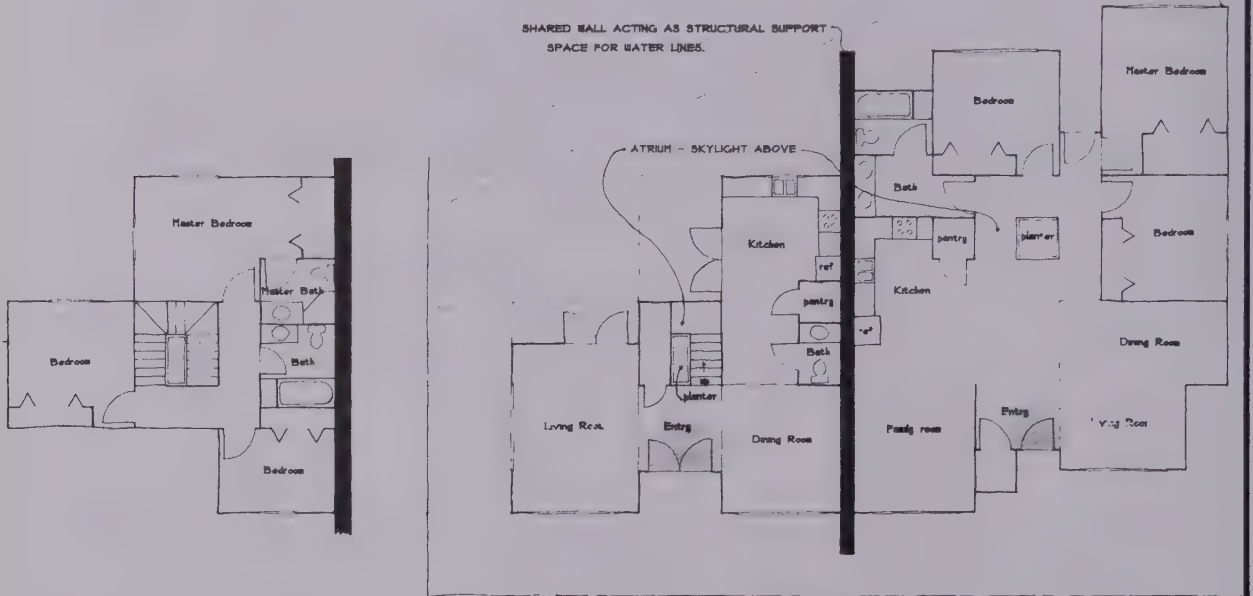
THE UNITOWN

SINGLE FAMILY RESIDENCE - PLAN

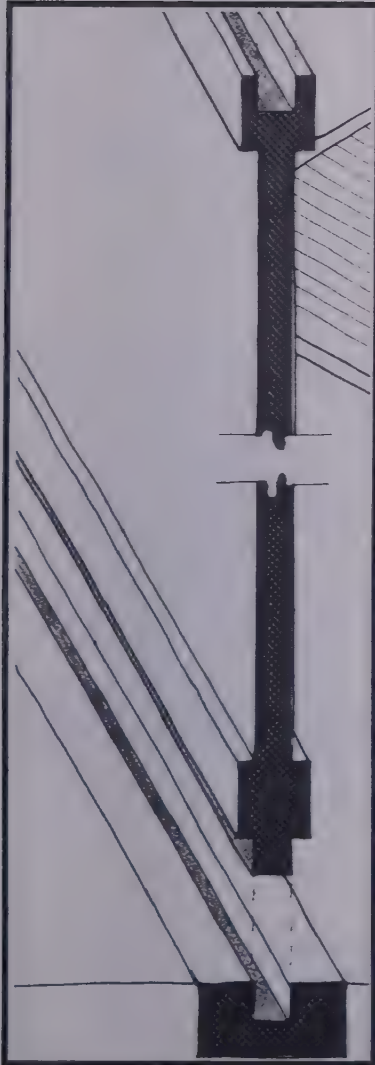
MODULAR PANELS

SHARED BACKYARD SPACE COVERED BY GLASS SIMILAR TO GREENHOUSE

SHARED WALL ACTING AS STRUCTURAL SUPPORT
SPACE FOR WATER LINES.



THE UNITOWN



Snap-in-place modular panels

Jury comments

Sellers: What I saw here was a possibility of getting away from locked-in geometries by intersecting geometries; having some regularity, but then intersecting them. They are trying to symbolize creativity and individuality in buildings. There are almost no words in this scheme, so we have to interpret it all on imagery. It looks like what this person is suggesting is some cluster of energy.

Hay: Technically, there is no control over the roof pond, as far as insulation and proper use of heating and cooling. I didn't see the integration of it within a community. It's related, but not bringing everything close enough. It also doesn't give any sense of protection from the ultraviolet rays when you're outside of the individual buildings. But I am amazed at work of this quality from a beginning student! I think this is outstanding – the integration of the thinking, the presentation...

Sellers: I see a pattern. This was close to a good idea!

Hay: Well, there is unity. It's radial, it's covered. Parts of it are at least realistic. They were looking at the principles and tying things together pretty well. I just object to the ornamentation; I didn't understand it.

Sellers: You've got this crystalline shape that comes across the landscape, that may be even geometric. Within that, you keep the habitable spaces up on top close to that crystalline shape. Then you have the potential for almost a complete open space underneath this whole thing.

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HONORABLE MENTION**RICK PRICE**

Texas Tech University

Second year student

Faculty Sponsor:

Elizabeth Loudon

Jury comments

Sellers: It looks like they are suggesting a diamond type community or something which would cover an enormous amount of ground area.

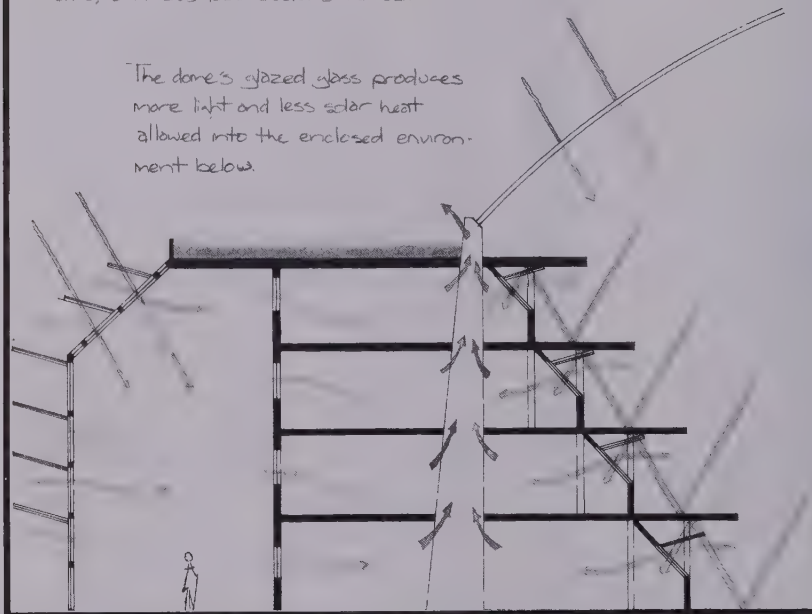
Hay: I don't understand where the buildings are. Here we have a curved dome; does that mean that the dome is at the street level? That this is all street, or residence? In other words, where is the structure?

Sellers: I think the structure is here, and you have roof ponds in between it, and I would imagine another structure goes here.

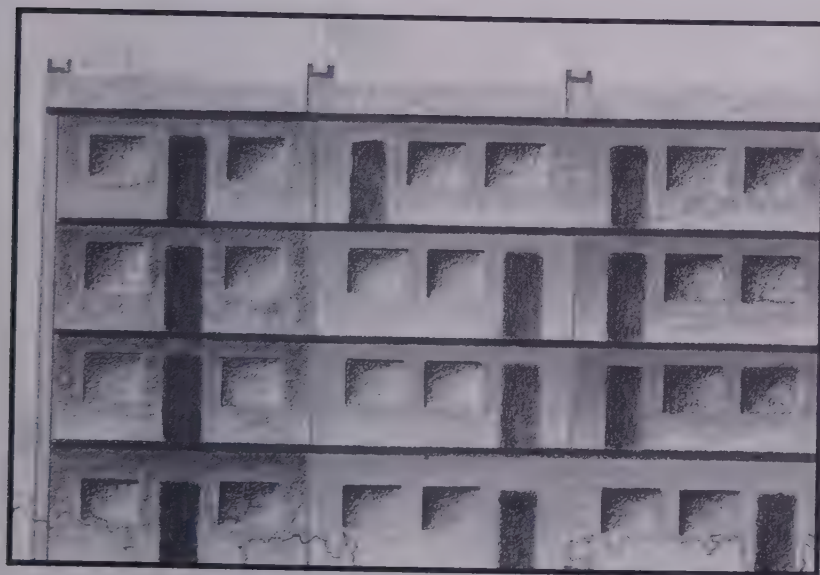
Prowler: When you look at it in section, it appears to be continuous, but when you look at it elsewhere, it seems to have fingers.

Recycling outposts are located at the ends of each circulation sector and between residential, green-belts, and business sectors as well.

The dome's glazed glass produces more light and less solar heat allowed into the enclosed environment below.



THE UNITOWN



Student narrative

MOVABLE WALKWAYS

Located in the circulation sectors of the city, there are walkways within four blocks of any given building. Escalators located in the center of the sector allow access to large industry in the underground of the city.

RECYCLING

Recycling outposts are located at the ends of each circulation sector and between residential and business sectors.

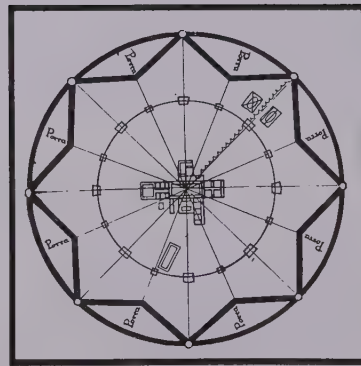
ROOFING

Each residential module contains a roof pond. The roof ponds collect and use rainwater.

RESIDENTIAL ELEVATION

The modules making up the residential sectors may be altered in their size vertically and horizontally to suit the needs of families residing in each unit. Passage to greenbelts is allowed between each residential block. The dome's glazed glass produces more light and less solar heat allowed into the enclosed environment below. Glass panels exposed to the outside, in the circulation sectors and making up the dome, open up to control temperature on degree days. Beneath the south facing exterior, facades maximize solar panel use, while supplying sufficient amount of sunlight into the interior.

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Sforzinda

T H E U N I T O W N

AWARD RECIPIENTS

CATEGORY II

Upper level students

FIRST PLACE

Troy Zimmerman (\$2,000)

California Polytechnic

State Univ, San Luis Obispo

SECOND PLACE

Bruce Quigley (\$1,000)

New York Institute

of Technology

THIRD PLACE

Julie Paulson (\$500)

California Polytechnic

State Univ, San Luis Obispo

HONORABLE MENTION

Maria Isabel Santualaria

Anahuac University

THE UNITOWN

FIRST PLACE**TROY ZIMMERMAN**

California Polytechnic State

University, San Luis Obispo

Fourth year student

Faculty Sponsor: Sharad Atre

Student concept

The urban fabric represented here is the Unitown; a portion of a larger entity designated as a city that adequately demonstrates the structure and dynamics of such a model city. This portion is a sector that may or may not be repeated throughout the entirety of the city with little difference of consequence.

Jury comments

Prowler: This has these roof ponds which are an independent structure and plug into the building.

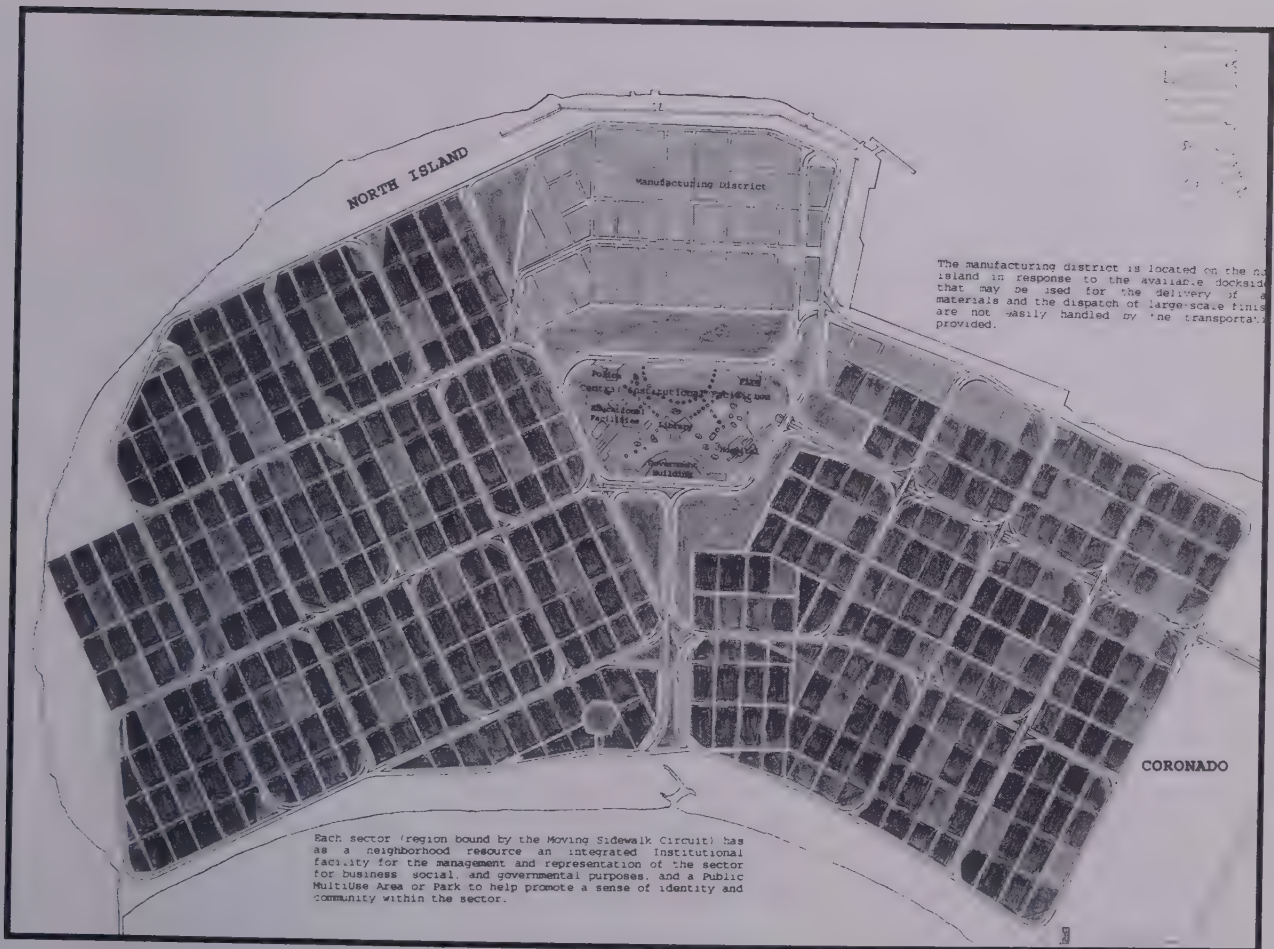
Hay: There is a great deal of humor in this, and a great deal of seriousness at the same time, and also a great deal of effort!

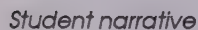
Sellers: He has a transparent membrane augmented by an opaque one which is automatic. The transparent membrane brings in the daylight, the opaque one is for shading. Rollers are for the shading devices. There also seems to be an underground system. I like the fact that he took the grid and hasn't sanitized it, but says that the outer edge has to respond to something else happening out there. I also like the moving sidewalk system and subterranean vehicles. Residential and commercial areas are mixed.

Prowler: The roof and roof pond systems are structurally independent of buildings in order to facilitate modification. That is actually a conceptual leap! Because you always think of these things as being on the building, and this person is saying, no, these are utilities, public utilities, like telephone poles or sewer systems, and you plug up to them; the buildings change underneath them! It's a system; rather than designing actual buildings, you're designing a system that sets up the framework where architecture can occur.

Sellers: It also sets up the framework for individuality, variety, and complexity within that. We're recognizing the consistency and complexity that the student was able to approach the problem with and the degree with which they were able to follow it through; including as many fundamental variables from technological to social as possible. This award is about how deeply the issues are penetrated.

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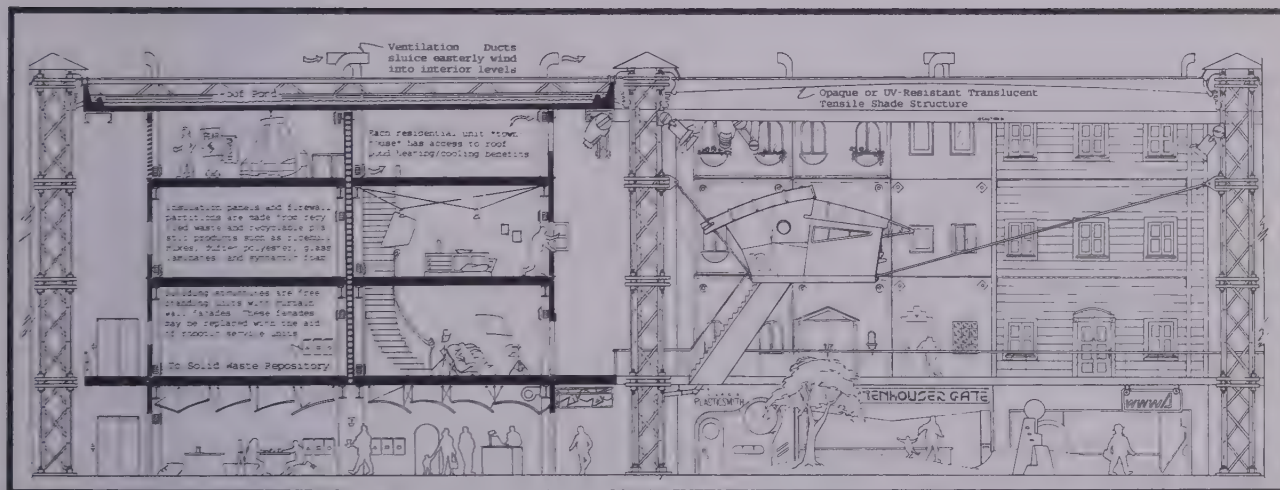
Fortunately, this is where the doomsday ends. The survival that mankind has opted for is a logical, cooperative, and orderly one, not one of social decay. Survival here is not an instinct, but a designed, deliberate methodology, which manifests itself in the urban fabric.

repeated throughout the entirety of the city. In this sense, the Unitown is a modular unit.

The Unitown shall be designed to respond to the following stated assumptions and parameters:

- Technology is considered to be sufficiently advanced to the point where recyclable engineering thermoplastics are available and economically feasible for structural and nonstructural applications.

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• The Unitown is to be situated, for climatic and geographic reference, in what is now a portion of San Diego, California.

• The Unitown is not required to be self-sufficient with respect to the amount and type of resources that it needs, but it must provide the means to recycle and/or manage its waste. Conversely, the Unitown is free to produce goods and services that can be used by other sectors and cities.

The contextual template chosen for the site of the Unitown is the North Island Peninsula situated in San Diego Bay, currently the location of the U.S. Naval Reserve Airfield and the district of Coronado. The rationale for this selection is related to the conditions of the program, specifically, the allusions to a moderate amount of structural autonomy that allow for commercial interaction with other future city resources.

Although the Unitown is assumed to have grown from a response to a hostile global environment, the site of North Island, with its majority of land dedicated to airstrips, provides a unique opportunity for prototyping the Unitown.

The Unitown located on North Island is expected to reflect the climatic conditions of the San Diego area and to represent, as a microcosmic sample, a particular solution for survival by the structure of a planned city.

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SECOND PLACE

BRUCE QUIGLEY

New York Institute of Technology

Fifth year student

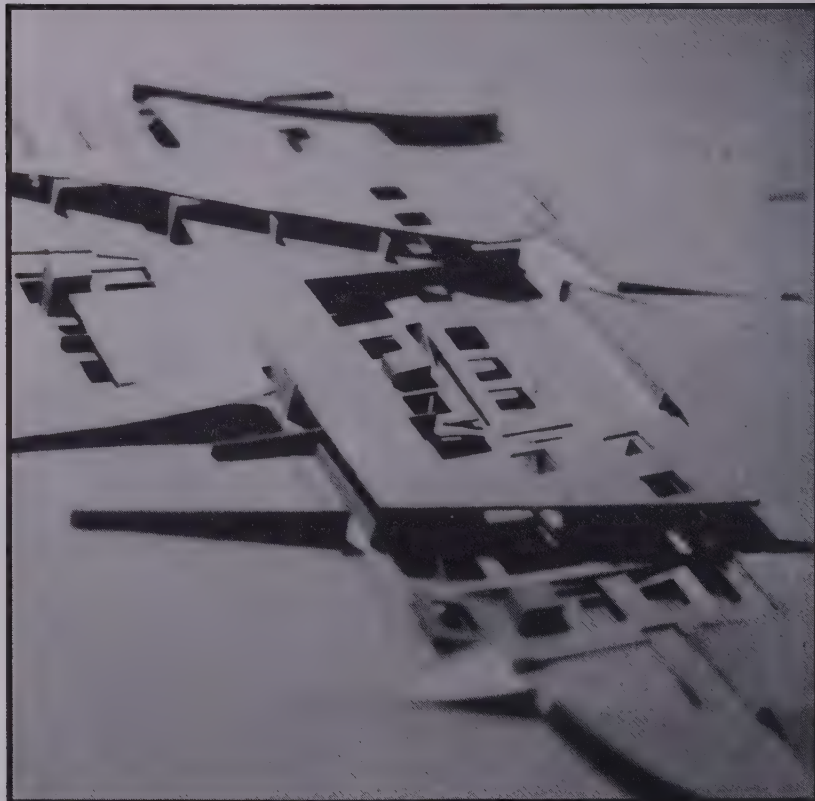
Faculty Sponsor:

Michele Bertomen

Student narrative

I am proposing the gradual transformation of Roosevelt Field Shopping Mall in Uniondale, Long Island, New York, from its current use as a shopping mall, to an ecologically sensitive community for people to live and work. The complex will include housing and work space for people who work in both physical and non-physical media.

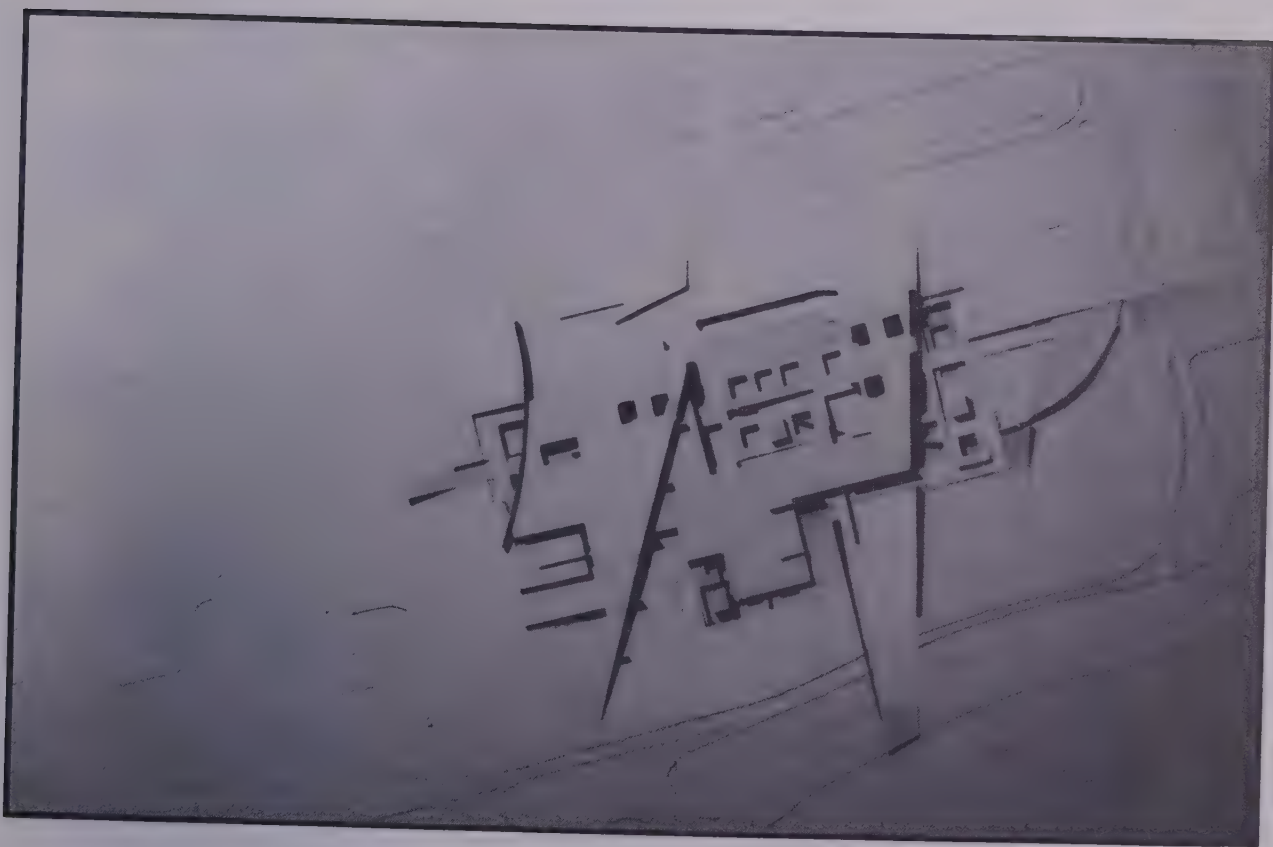
Additionally I hope to provide the opportunity for social interaction which has traditionally taken place at work or in town centers. The injection of this new community should create a communal nodal point for the surrounding areas while providing an example of a different, more efficient way of life.



The decline of the automobile and the introduction of a public transportation system of nonhierarchical modes allows for development with integrated zoning. The integrated zoning would facilitate a layering of function, creating a situation of

"simultaneous perception," rather than the "linear sequence," typical of suburban situations. The situation of simultaneous perception may expose not only differences, but areas of functional compatibility.

THE UNITOWN



This proposal and the process of its investigation represent the surrounding context by combining and condensing its various functions, scales and characteristics. This new juxtaposition of the

elements found in this suburban context exposes relationships, both positive and negative, while setting up new opportunities for interaction at all levels. By retaining the footprint of the shopping

mall, the mall's status as the center of suburban life is acknowledged and a situation that is at once urban and suburban is established.

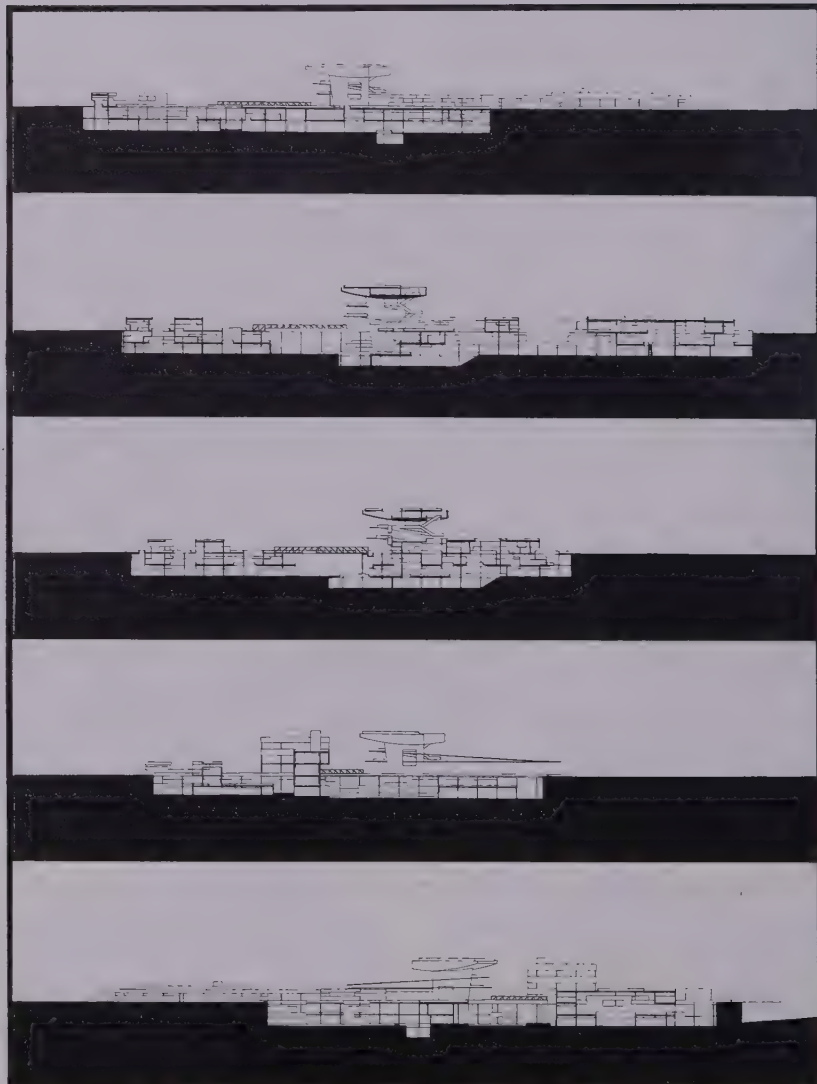
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Important for the transformation is the establishment of a matrix that supports utilities as well as vehicular and pedestrian traffic. This matrix organizes a non-hierarchical field of infrastructure. My project incorporates the planning for this infrastructure, but it would not have to be fully implemented for the transformation I anticipate to take place. I conceive four hypothetical periods of crucial transformation, corresponding to the transformation of form that would take place as new functions replaced those of the shopping mall.

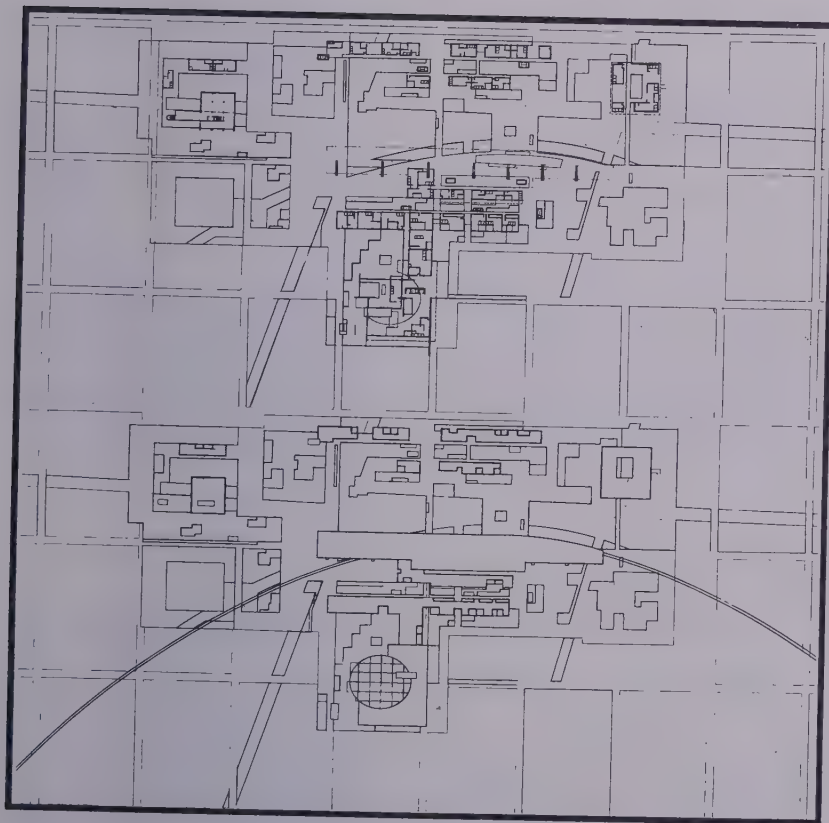
Jury comments

Sellers: This is happening in different phases. They start off with a cut through the mall.

Prowler: I think it's an excellent question, the idea of taking a street and cutting through there; that creates all sorts of tensions and intersections.



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Sellers: Another thing that is realistic is that they say this can occur in periods of evolution, a first phase, a second phase, and a final, building phase.

Hay: This solution is poor technically; the shadows are interfering with the things that are shown. I don't think this has a grasp of using the roof as an energy source.

Prowler: You're right; it doesn't really address the questions that you frame, it addresses other questions. His agenda is not yours, but it is very intriguing.

Sellers: I think this person understands the complexity of large scale, retail issues.

Prowler: The mall is that one place in our culture where there are membranes over interior streets. People walk under this routinely and don't think twice about the enclosure. It would not be hard for me to imagine that this could be one of the very first places where this magic technology could be employed. I could actually believe that somebody could retro-fit an existing mall with this new membrane, and the membrane leaks out of the mall and then begins to develop a pedestrian and residential sector.

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THIRD PLACE

JULIE PAULSON

California Polytechnic State
University, San Luis Obispo

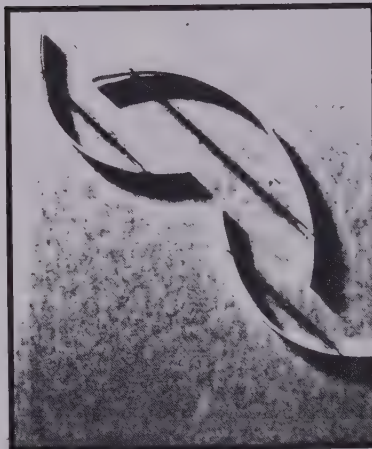
Fourth year student

Faculty Sponsor: Sharad Atre

Student narrative

Unitown is constructed entirely of recycled materials. The steel structural frames are recycled from obsolete automobiles. The highly insulative building panels are recycled from polystyrene, plastics, and rubble fill such as concrete and brick reclaimants.

Flexibility and personalization of spaces is guaranteed -- each unit's 30'x70' footprint is contained by two walls, which supply all utility services that are then delivered to any location on the wall. The unit's two service walls consist of interconnected service modules held in a rigid steel frame, which in turn connects the service walls for up to eight consecutive units. Modification of the space within the service walls is up to an individual. Typical residential unit solutions would



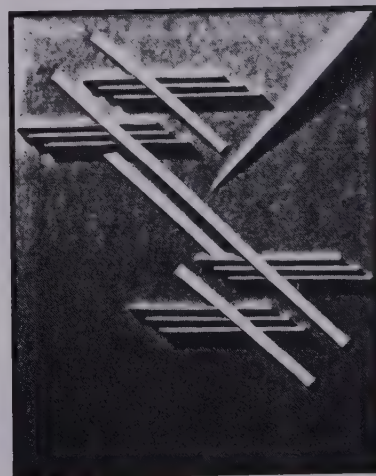
STRUCTURE



ENCLOSURE

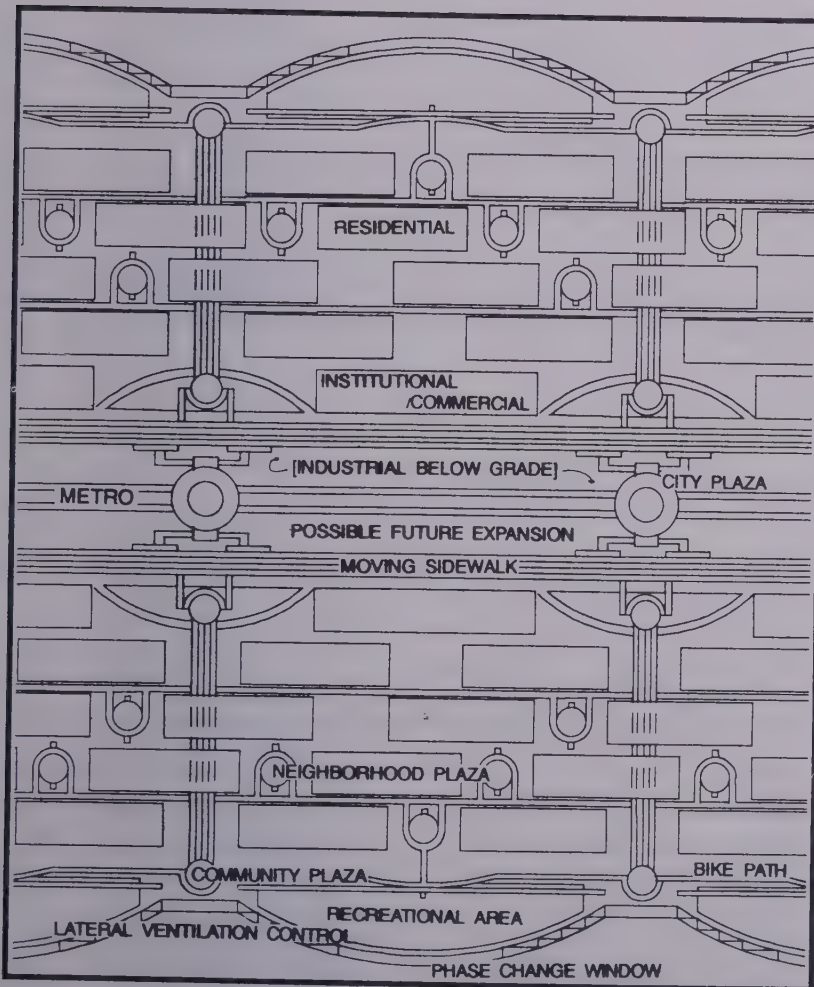


CIRCULATION



ORDER

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Typical zone

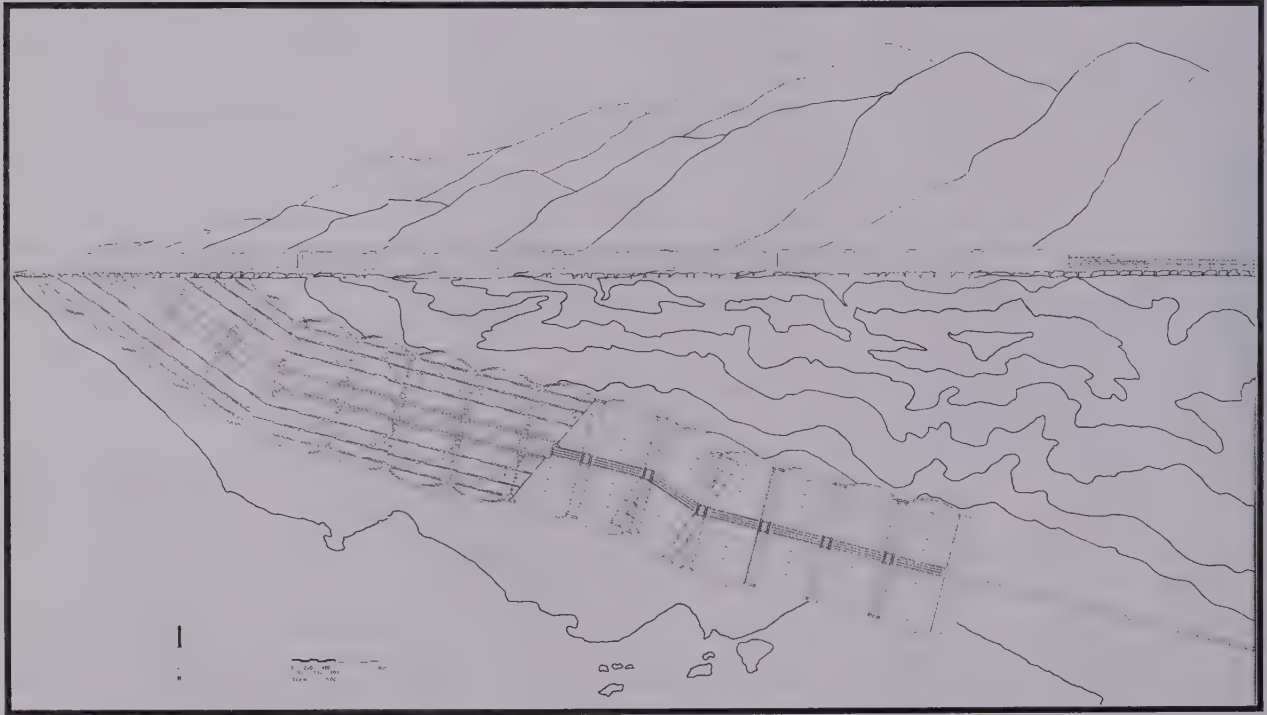
consist of modulated prefabricated stock parts or anything that strikes an individual as appropriate for defining her or his personal space.

The organization of Unitown's repetitive zones allows for flexible terrain solutions to any city's designated location. Entire zones can vary in height, or span open spaces between zones.

American people have finally accepted that they are spending their entire lifetime in an automobile. The proposed Unitown replaces the automobile with an International Metro Rail system that is supported by a major and minor moving walkway system. The adjacencies of the Unitown's multiple service and activity areas to residential areas decreases the distance traveled per person per day tremendously, thus reducing the travel load at the outset.

All waste and recyclables are collected via chutes to the city's service core. Recyclables are sorted for reuse, and waste is treated at an off-shore non-polluting waste treatment plant

THE UNITOWN



and later discharged into the ocean as purified matter.

The service core provides all utility and delivery services to the city and has immediate access in the case of an emergency.

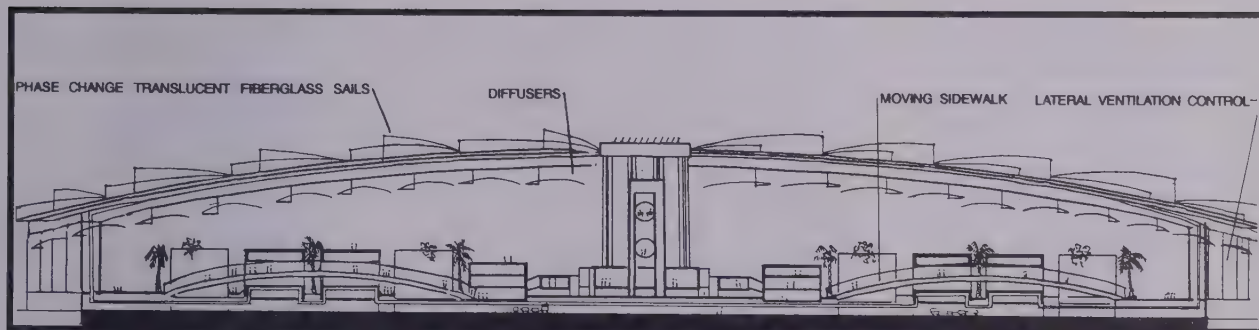
Supermarkets are obsolete. Grocery lists are entered into

household computers directly to product delivery centers located beneath the Metro Rail. Grocery deliveries are made to the residence via a refrigerated compartment of a service elevator. Another unnecessary trip avoided!

Unitown is cooled with seawater cooling tubes, a roof system that

"sails" to catch cool ocean winds during the day, and warm valley winds in the evening, and a lateral ventilation control system around it's perimeter. A heating loop can be generated from the same system. Natural ventilation and daylighting throughout are always possible.

THE UNITOWN

**Jury comments**

Sellers: This is a linear scheme that continues and has an end.

Hay: The air-foil effect that will occur in there is a problem.

Prowler: I was seduced by a few things: this person has picked a site at the base of a cliff, at the edge of the water, that would be particularly conducive to a long, linear scheme. So there seems to be a confluence between idea and site. As homogeneous as the section is, it makes

itself a little more interesting by doing things like dipping into the water at the one end, and by rotating and getting these overlaps which suggest the possibility of different conditions. It is a very appealing sequence of images. The roof structure is totally separate and there's the possibility of a lot of life and variety underneath it.

Hay: I'm worried about the span.

Sellers: They were able to take what is required for community life in close proximity: variety, creativity, uniqueness, individuality; and then have the sensible notion of a large scale upper structure independent of the variety of the lower structure.

Prowler: It has a great deal of vitality, and is very provocative. This is a megastructure in a sense. What I find interesting is that the infrastructure includes things we normally don't consider part of the infrastructure, such as roof ponds, membranes, and pedestrian walkways.

THE UNITOWN

HONORABLE MENTION

MARIA ISABEL SANTUALARIA

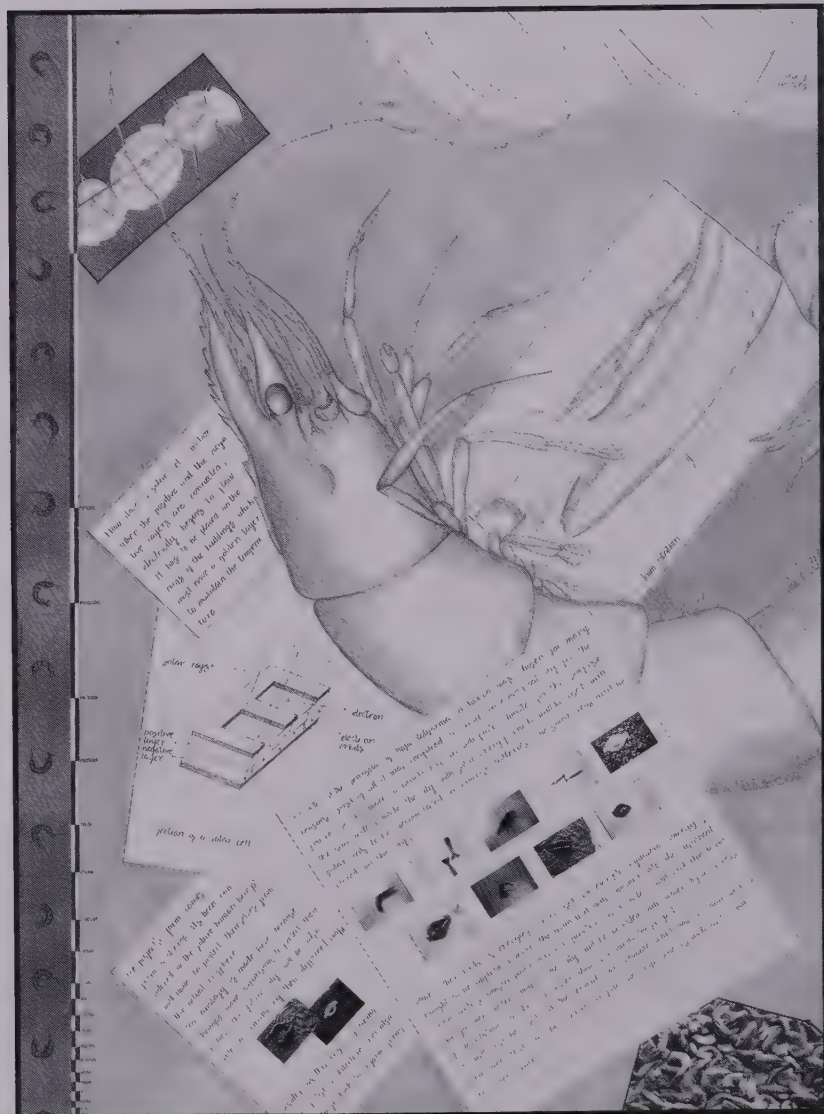
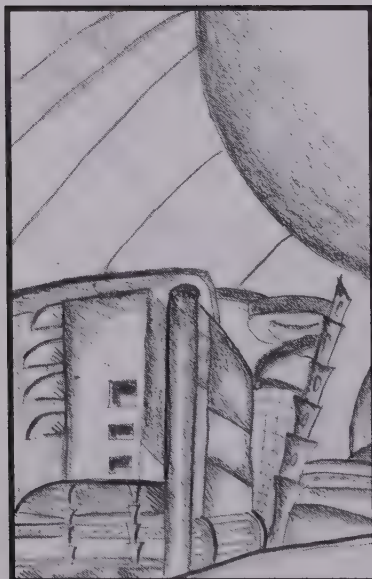
Anahuac University

Third year student

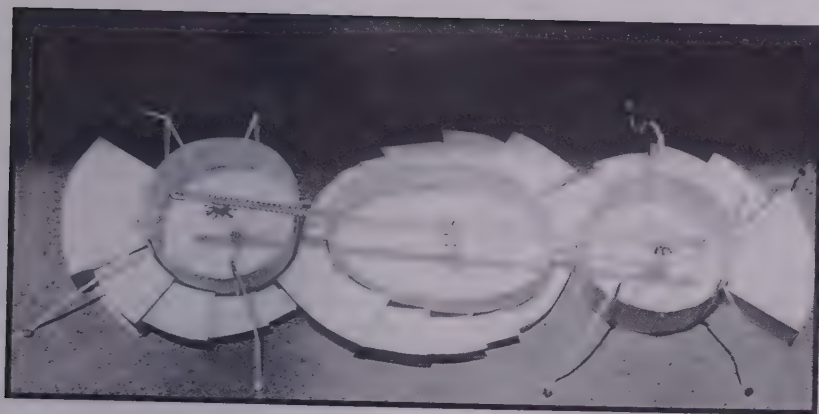
Faculty Sponsors:

Manuel Aguirre-Osete

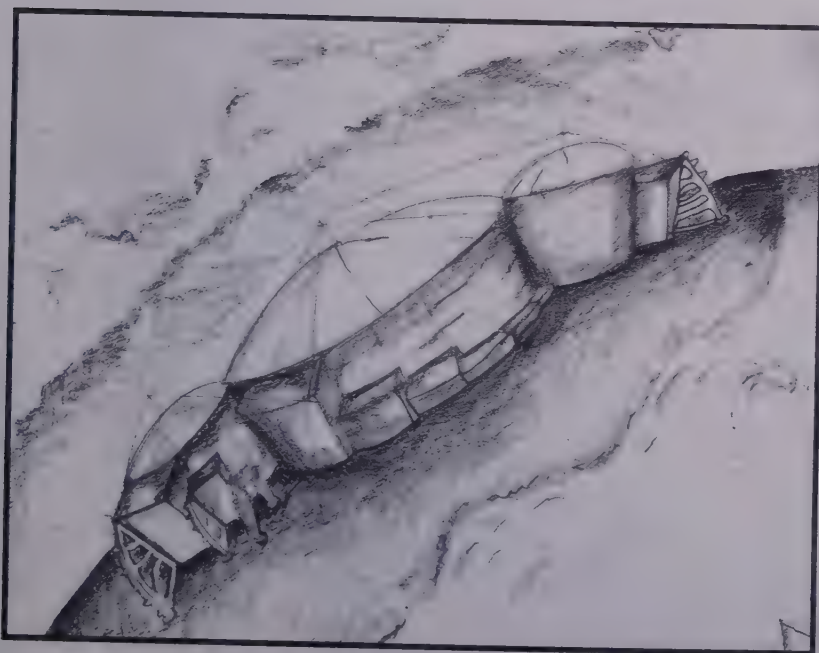
Javier Carreon-Montoya



THE UNITOWN

*Student narrative*

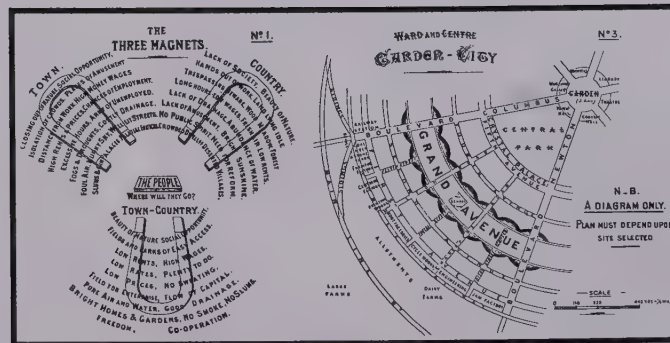
The site, at the peninsula of Baja California in Mexico, was chosen because the climate is ideal for utilizing the sun and its rays. This will provide the city with solar energy; used with solar cells, this energy will be stored in solar batteries. Cells must be placed on the roofs of buildings. Hydraulic energy can also be used to power a train for transportation within Unitown. Sea water will be distilled and then utilized. A small, artificial lake at the center of the Unitown will be used to irrigate crops as well as cool the inner space.



This project's form comes from a shrimp. An analogy is made here: in the proposed Unitown, humans must protect themselves from the biosphere; shrimps have a hard outer shell to protect their bodies as well.

The materials used for building in the city are glass, adobe, and aluminum. Glass domes will cover the city, adobe will be used in wall construction, and aluminum will be used on all the structural elements.

THE UNITOWN



Ideal city garden plan, Ebenezer Howard

**ADDITIONAL
SELECTED PROJECTS**

Gilberto Garduño Antuñano
Anahuac University

Adrian Jesus Falcon
Texas Tech University

Ramiro Garcia
Texas A&M University

Amanda Koen
Texas A&M University

Ray Koh
Columbia University

Ileana Villarreal
University of Oklahoma

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SELECTED PROJECT

GILBERTO GARDUÑO ANTUÑANO

Anahuac University

Third year student

Faculty Sponsors:

Manuel Aguirre-Osete

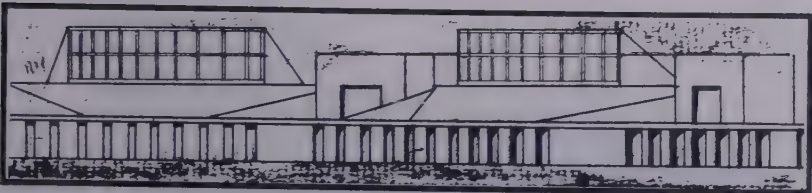
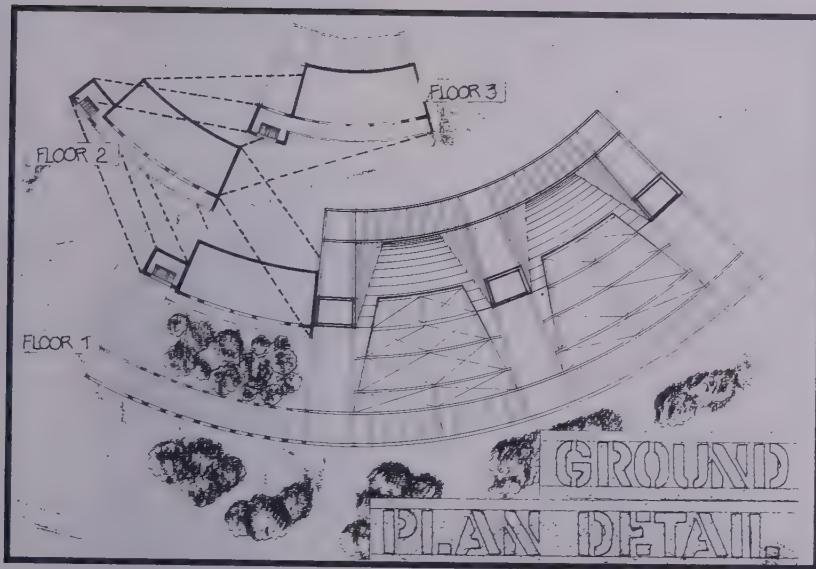
Javier Carreon-Montoya

Student concept

This city has its own life; all activities are enclosed. Human beings are creators of the Unitown and therefore carry the responsibility of the city. The Unitown is similar in concept to the body: water is essential for survival, movement among parts is an integral function.



THE UNITOWN



Jury comments

Hay: They are telling us in advance what to expect, and then they show it in a very realistic contour. It's meeting a problem which is laid out and then carried forward, although not in a technically totally effective way. The technology gets weaker as the thing develops. The floor plan takes an odd shape and shows that you don't have to conform to a specific type or pattern. It has nice progression; the vegetation on the rooftop is also nice.

Prowler: There is an implication of a section change with these contours, with the form then dropped onto the site.

Sellers: Here are three linear elements; what I find difficult is putting something in the middle of the open space. When you do that, I think the value is lost a bit. There's no beginning and ending of these spaces. Somehow, where they connect suggests that there is an opportunity for some unique thing, yet it just doesn't lead to anything.

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SELECTED PROJECT

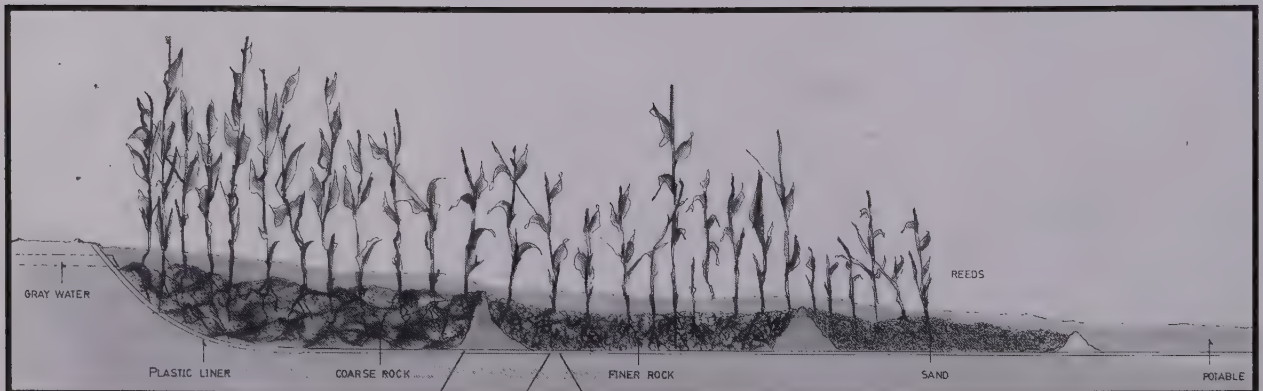
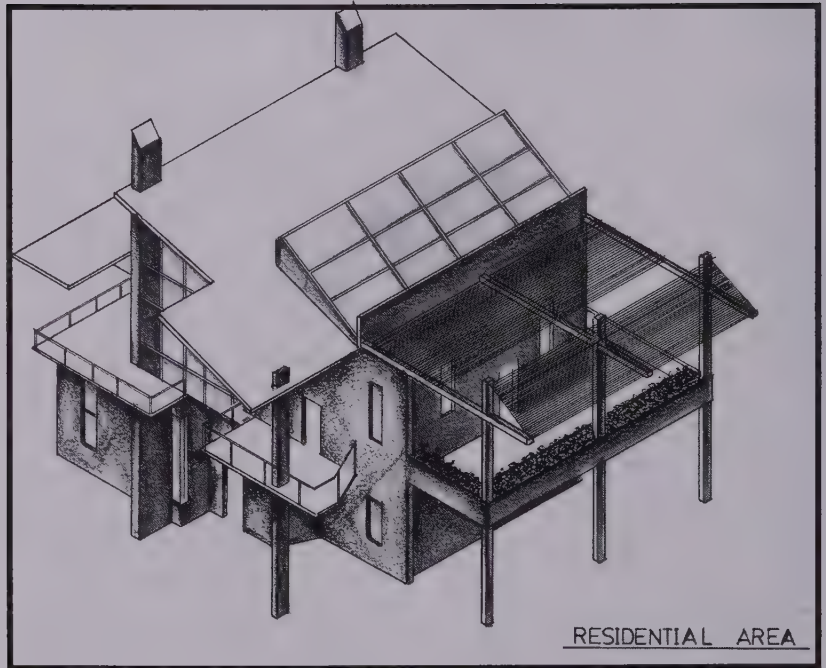
ADRIAN JESUS FALCON

Texas Tech University

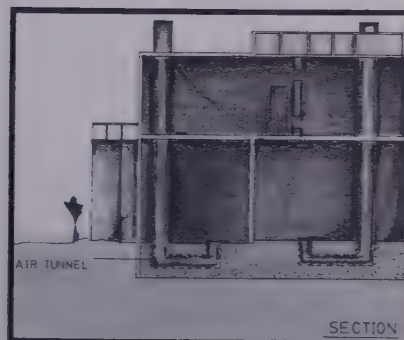
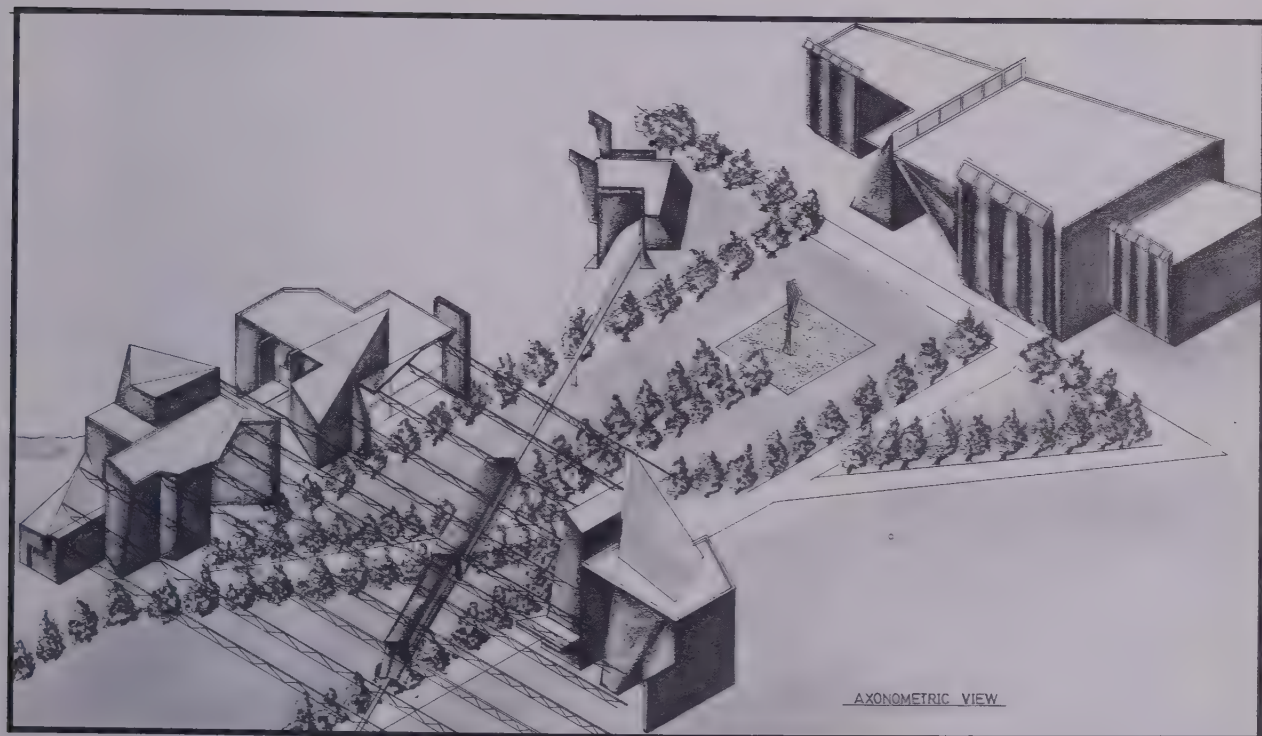
Second year student

Faculty Sponsor:

Elizabeth Loudon



THE UNITOWN



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SELECTED PROJECT

RAMIRO GARCIA
Texas A&M University
Second year student
Faculty Sponsor: James Tripp

*Student narrative***RECYCLING TRASH**

Energy from waste: To avoid having a landfill, a solid waste recovery system is utilized for processing and separation of recoverables. Selected wastes from homes are processed and used as fertilizers for community gardens.

HYDRO ELECTRIC POWER

By harnessing power created through a dam, the power needs for a majority of the community are met.

TRANSPORTATION

Public Rapid Transportation (P.R.T.) System: There are two types of public transportation, general purpose cars, and taxis. The general purpose cars resemble buses used for moving large amounts of people to general areas. Taxis concentrate on transporting small groups of people to specific destinations quickly. Transportation in the residential areas will be limited to certain main avenues to allow for a more "natural" environment and view from the homes.

ENERGY

Wind Power: The "wind turbine generator" utilizes energy in wind and air currents to power the residential area. One of the windmills generates up to 200 kilowatts (with 18-24 mph winds measured at 30 feet above ground), enough to power 60 homes. The propeller-like rotor that turns the blades responds automatically to changes in wind speed and direction.

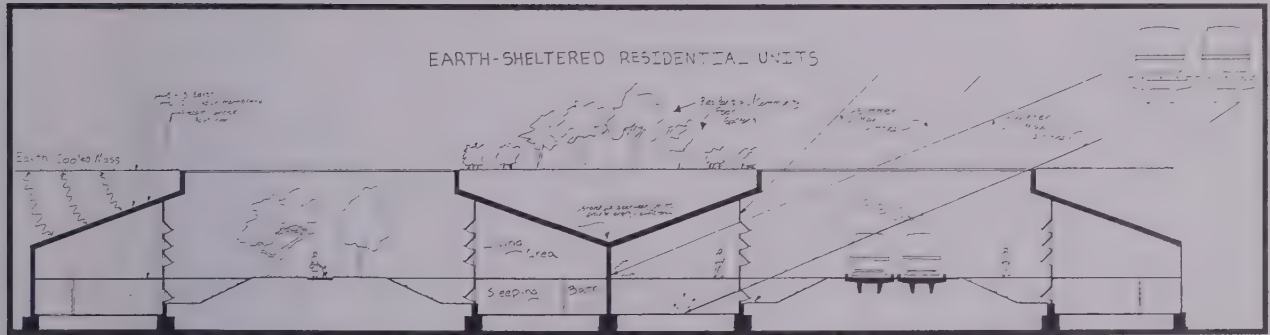
BUILDING MATERIALS

- *Recycling Materials: The materials of an old nearby city are used in the construction of the Unitown.*
- *Lumber alternatives: (Thermally stable, and weather resistant) Wood alternatives produced from various types of plastics are comparable to wood in strength.*
- *Masonry alternatives: Recycled concrete is used as a backfilling material, such as the Phoenix brick, which is principally composed of waste ash from solid waste incineration. The bricks are lighter yet just as strong as standard bricks.*

PASSIVE HEATING/COOLING

- *Residential area: The design is derived from the earth-sheltered apartments of Collegeville, Minnesota. The units are naturally cooled by the surrounding earth during the summer and insulated in the winter months. Direct passive solar gain through the front facade provides one half of*

THE UNITOWN



the building's heat. Drapes are used in the summer because they are reflective on the inside and provide more insulation.

- **Business and Commercial District:** The structures are located above ground and are cooled by roof ponds. The roof ponds are insulated from solar radiation during the day, absorb heat from the living space, and radiate it to the night sky when uncovered.

FOOD/WATER

- **Community Gardens:** Fruit and vegetable gardens are located above every housing unit, providing a large portion of the total consumption of the residents. The gardens are maintained by the residents, and fertilized by processed, treated liquid wastes from the community. The gardens provide a peaceful nature-like setting for leisure or for farming.

- **Farms:** Located on the outskirts of the living sector, the farms provide nourishment for the entire community while enhancing the landscape surrounding the community. This helps citizens take a more active role in the environment.

- **Water:** Purified water is used by the citizens, and heated by solar collectors. Once water has been used by residences, the wastes are either pumped to algae ponds, or treated and used to irrigate gardens and farms.

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SELECTED PROJECT

AMANDA KOEN

Texas A&M University

Second year student

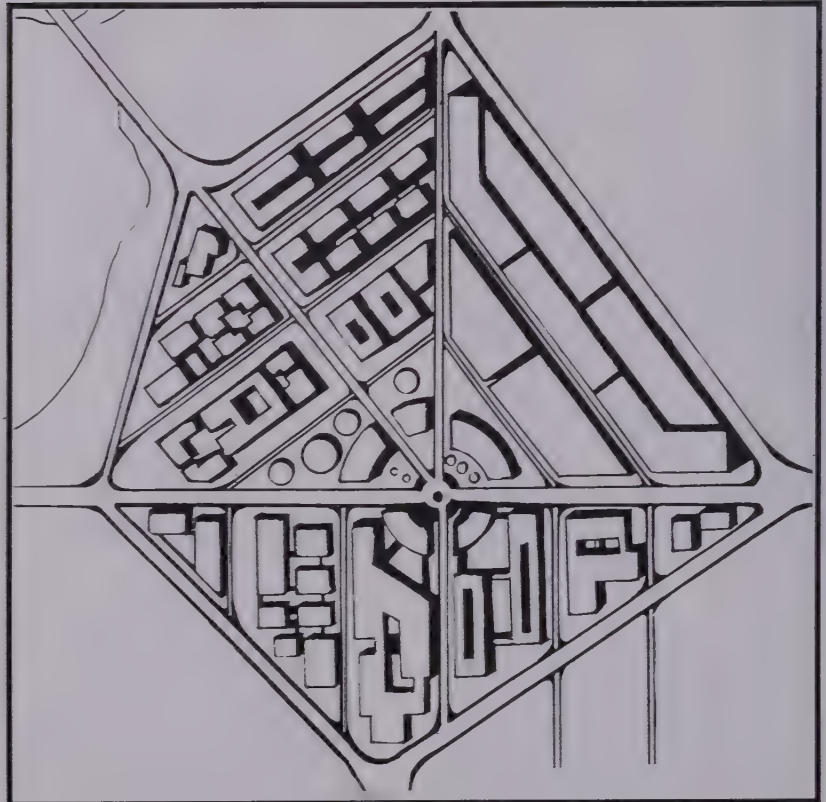
Faculty Sponsor: James Tripp

*Student narrative**Unitown: a future solution to past pollution.*

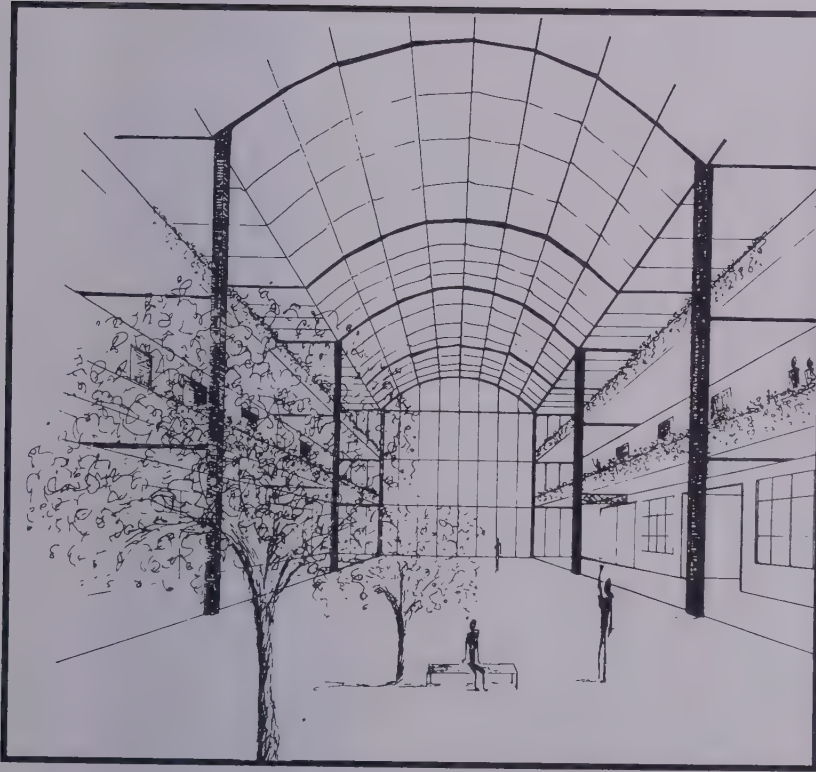
This future city design integrates the environmental efforts needed for future urban planning, which include recycling, covered walkways, solar heating and cooling, and pollution prevention.

RECYCLING

All materials used by the city are either recyclable or reusable. For convenience and easy access, the main recycling area is in the center of the city. Incoming automobiles deliver goods to a basement under the city, which prevents pollution.



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SOLAR HEATING AND COOLING
Roof ponds are located on all commercial buildings and apartment buildings. These are used for day heating and night cooling. Climate controlled walkways are covered with solar panels that have adjustable louvers. These louvers are computer controlled for maximum efficiency.

MOVING WALKWAYS
Covered walkways and parks connect all of the buildings. The walkways are then connected to main walkways which lead to the center of the Unitown.

HOUSING
The solar panel covering also encloses large residential areas. Housing is in turn covered by a removable fabric for a practical temporary facade.

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SELECTED PROJECT

RAY KOH

Columbia University

First year graduate student

Faculty Sponsor: Hilary Ballon

Jury comments

Sellers: I think they were trying to get something that has flexibility and variety of space, with integration, transparencies, multi-layers, and partial geometries.

Hay: When you get to his understanding of the technical, some of it is not quite accurate. If you're saying that the overall problem of meeting the future is going to vary in different locations, and that each one of these proposed solutions may be applicable, and are mentioned not with respect to the plan that is presented, but with respect to the problem that is being faced, then it has some merit. It's not a Unitown, it's a composite Unitown.

*Student narrative**SITE: AN ARTIFICIAL ISLAND*

Concept: Assuming we project into a future that holds such severe and desperate global conditions, it becomes imperative that our cities/towns/landscape/man and technology confront each other to produce a beneficial and productive relationship. Paradoxically, the negative forces of environmental devastation can create optimistic results and reveal truths about a place and ourselves.

My solution represents a prototypical urban core that is capable of future extensions and is easily adaptable to virtually any climate. This process continuously examined and re-examined the numerous relationships when a "Viscera Pisces" condition was applied to urban programming. The visceral quality of this proposal not only allows for a smooth, heterogenous, continu-

ous urbanity, but also transprograms the notions of density within the city core with a technology-advanced mentality. What was ultimately generated represents a core component that is allowed to expand with a certain cohesive character.

In section, the topography of this project utilizes an ambiguous relationship between ground level and building. A spatial drift was developed, where the notion of streets became cross programmed into constructions that not only act as a means of connecting two points, but also confront the notion of space. The urban connection located within this core city hovers above ground level permutating the framework of construction to produce a complex urban mixture. Certain buildings are partially buried to create a situation where a rooftop becomes a means of accessing alternative locations.

THE UNITOWN



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SELECTED PROJECT

ILEANA VILLARREAL

University of Oklahoma

Fourth year student

Faculty Sponsor: Iver Wahl

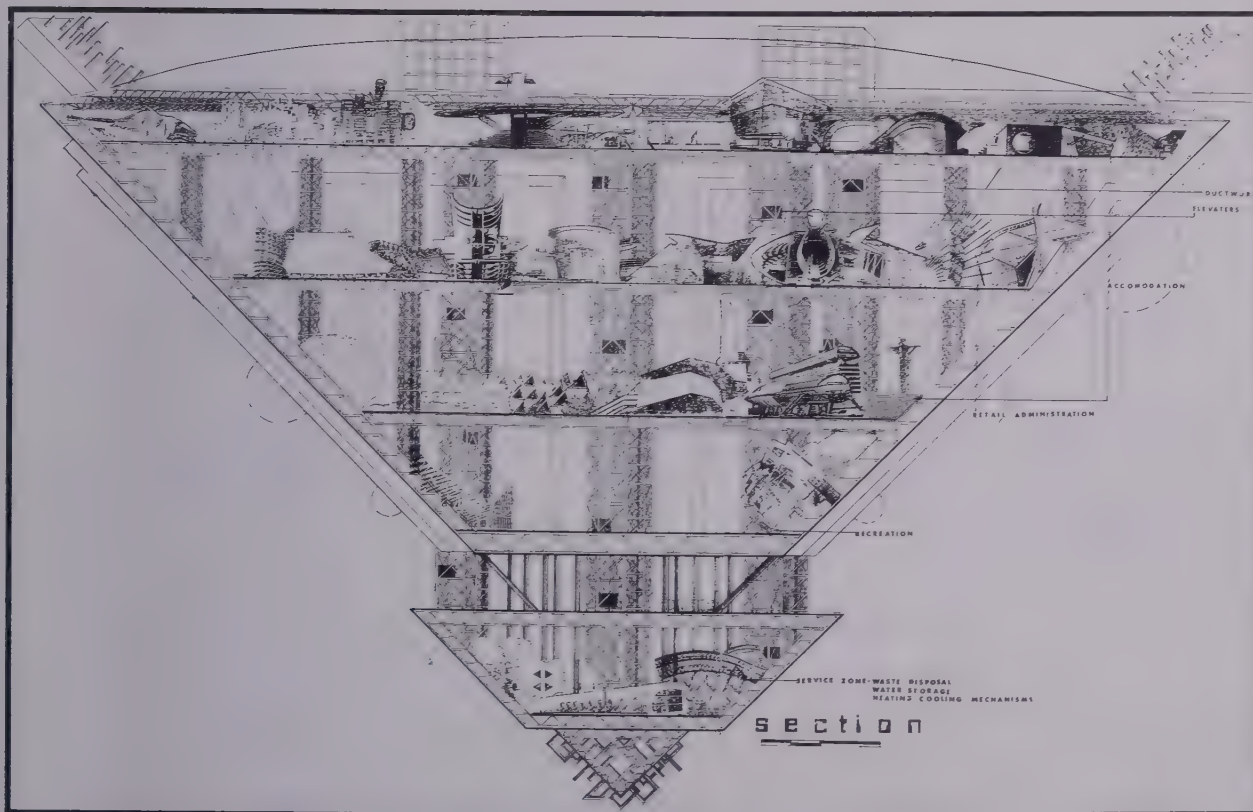
Student narrative

The abuse man has inflicted on his planet has resulted in the slow dissolution of the natural environment, overcrowding on continents, a hole in the ozone layer, and the destruction of rain forests. This proposal is to create hope for a self-sustainable environment, a place where communities are encouraged to live in a harmonious world. In this environment, food is plentiful, energy is renewable, and recycling is a fact.

Since land is being destroyed, the ocean seems to be the only untouched place left on Earth. This is an unknown, amazing land. Connections between floating cities will be by boat or tunnels. Vehicular transportation is minimal. An atria space allows for an airy atmosphere that also creates astonishing views.



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Jury comments

Prowler: This is floating in the water! Of all the geometric solutions, putting a city in the water is one way to justify this crystalline form. It's self-referential. Just like a mall, it's a possible venue for a use of a "magic membrane."

Hay: The seals are awfully technically difficult; the surrounding pressure is very high. Is this an answer to the ozone layer and the greenhouse effect?

Prowler: I think it's more like a space station.

Sellers: This is when all habitable ground has been completely destroyed and our only choice is to float around. This is the single structure utopia idea.

Hay: There should be some intake to suck in the fish to provide food!

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